

DETERMINANTS OF CONTINUANCE INTENTION
OF MOBILE LEARNING AMONG ACADEMICIANS
IN MALAYSIAN PRIVATE UNIVERSITIES

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DECLARATION

We hereby declare that:

- (1) This undergraduate research project is the end result of our own work and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.
- (2) No portion of this research project has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.
- (3) Equal contribution has been made by each group member in completing the research project.
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LIST OF ABBREVIATIONS

CI	Continuance Intention
ECM	Expectation Confirmation Model
EE	Effort Expectancy
FC	Facilitating Conditions
IT	Information technology
M-learning	Mobile learning
MLR	Multiple Linear Regression
MMU	Multimedia University
PE	Performance Expectancy
SI	Social Influence
SE	Self-Efficacy
TAM	Technology Acceptance Model
UNITEN	Universiti Tenaga National
UTAR	Universiti Tunku Abdul Rahman
UTAUT	Unified Theory of Acceptance and Use of Technology

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PREFACE

Current final year project is executed to satisfy the requirements of Bachelor of Commerce (Hons) Accounting. This research methodology project is accomplished and furnished with reference to the other researches which were quoted as references.

The title of the current research project is ‘Determinants of Continuance Intention of Mobile Learning among Academicians in Malaysian Private Universities’. There are a number of past empirical researches that conducted studies about the readiness and intention to adopt mobile learning at initial stage. However, there is a dearth of studies scrutinizing on the continuance intention in the post-adoption stage. Thus, we were inspired to carry out this research. This study shed new light on the factors that impact the continuance intention of mobile learning among academicians in Malaysian private universities.

ABSTRACT

Mobile learning (m-learning) is an enhancement to the traditional pedagogical approach that acts as a dynamic tool to assist educators in their teaching endeavours. For Malaysia's educational paradigm, m-learning is one of emerging educational trend that is growing rapidly. In long-term context, retaining user's continuance usage is the real key determinant to ensure the long-term viability of m-learning. The importance of continuance intention of m-learning is recognized and hence, played as the key purpose of the current research. This paper integrated an additional construct of self-efficacy into the revised UTAUT model to develop a conceptual framework that examine the factors of continuance intention to employ m-learning among academicians in Malaysian private universities. Academicians were targeted because they act as a key player in the success of higher education institutions and an influential role towards students' motivation. For current study, quota sampling is chosen as the sampling techniques involving a sample size of 250 academicians in the top six ranking Malaysian private universities in Wilayah Persekutuan Kuala Lumpur and Selangor state. The findings from this study shed new light on the importance in the perseverance of m-learning efforts in order to encourage academicians to continue incorporate m-learning in their pedagogical methodologies. Based on the outcomes for the current research, effort expectancy is ascertained to have the most significant positive influence towards academicians' continuance intention of m-learning, followed by performance expectancy, facilitating conditions and lastly, self-efficacy. On the other hand, social influence is proven to be insignificant towards justifying the academicians' continuance intention of m-learning.

CHAPTER 1: INTRODUCTION

1.0 Introduction

This research sought to investigate the factors that influence the continuance intention of mobile learning among academicians in Malaysian private universities. The first chapter will introduce on the mobile learning, followed by discussion on the problem statement, research objectives and questions and lastly, the significance of this study.

1.1 Background of the Study

In educational context, mobile learning (m-learning) is an enhancement to conventional pedagogical approach that furnished its learners the ease of learning at anytime and anywhere through mobile technologies (Crescente & Lee, 2011; Korucu & Alkan, 2011). Breaking out from the traditional classroom teaching, mobile devices had aided educators in the dissemination of knowledge (Ozuorcun & Tabak, 2012; Rimale, Ben Lahmar, & Tragha, 2016). As of year 2014, Malaysia's population is estimated to be 28,250,000 but the number of mobile phones used is 30,379,000. (Masrom, Nadzari, & Zakaria, 2016). This statistic substantiated the device readiness of Malaysian in engaging m-learning

The concept of m-learning is similar to e-learning to the extent that many asserted that m-learning is actually a subdivision of e-learning (Masrom et al., 2016; Mehdipour & Zerehkafi, 2013). E-learning is the teaching approach that utilized technological gadgets in the deliverance of knowledge (Rimale et al, 2016) whereas m-learning is the pedagogical approach that employed mobile technologies such as mobile phone, tablets, handheld computers and other mobile devices as the medium of study (Ozuorcun & Tabak, 2012). The key difference between m-learning and e-learning is the absence of geographical constraint. Portable mobile devices enabled

users to engage in m-learning notwithstanding time and location barriers (Crescente & Lee, 2011; Ozuorcun & Tabak, 2012)

Besides, the formality of pedagogical framework also differentiates m-learning from e-learning. Ozuorcun and Tabak (2012) claim that e-learning is a formal learning setting where there is prescribed educational system by external parties. On the other hand, m-learning is an informal personalized learning process where the learning is triggered by the individual intrinsic wants and needs.

In this research, the focus will be on post-adoption stage where users' continued intention of employing m-learning is examined (Islam, 2011; Lee, 2010; Thong, Hong, & Tam, 2006). In educational dimension, the continuance intention of m-learning is of paramount importance as continued usage is the key determinants of the long-term success of m-learning approach (Thong et al., 2006; Bhattacharjee, 2001). As the nucleus of this research, academicians' perspectives on continuance intention will be analysed.

1.2 Problem Statement

1.2.1 Research Problem

M-learning is an evolution from e-learning that acts as dynamic tool to assist users in their efforts of teaching, learning and research (Rujhan, 2013). It allows educators to be itinerant in their teaching life without spending much time at the desks (Aubusson, Burden, & Schuck, 2009). Educators are granted with flexibility and opportunities for interaction among peer educators, administrators and students since they are able to exchange information regardless of time and place constraint (Alharbi, Alotebi, Masmali, & Alreshidi, 2017; Aljuaid, Alzahrani, & Islam, 2014; Clark, 2007).

According to the Ambient Insight's 2012-2017 Worldwide Mobile Learning Market Forecast (2013), Malaysia's m-learning is expected to achieve the highest growth rate of 57.5% in Asia for year 2012-2017. This emerging m-learning trend upholds the acceptance of m-learning in Malaysia educational context. In the study of Hashim (2014), educators in Malaysian private university have favourable feedback to the implementation of iPad in teaching due to its advance features that allow access to education materials, email and communication forum with touch screen capabilities.

However, the continuous incorporation of m-learning in pedagogical methodologies still faced difficulties. 73% of the academicians in Malaysian private universities claimed that desktop computer and laptop tend to be more appropriate in constructing teaching content as compared to iPad which is more suitable for learning purpose (Hashim, 2014). In addition, 67 % of educators believed that in-class use of mobile devices is distracting (Joo, Kim, & Kim, 2016). Moreover, in Malaysia, many educational institutions are still lacking of learning tools for the implementation of m-learning (Shuib & Yaakob, 2015). Pozzi's (2007) study (as cited in Tan, Ooi, Leong & Lin, 2014) further corroborates that m-learning is only implemented sporadically and in an auxiliary manner.

In long-term context, Bhattacharjee (2001) asserts that continuance usage is the real key determinant in the viability of m-learning. Hence, it is imperative for research to be focused on factors contributing to m-learning continuance intention. Educator's perspective is prioritized for current research because the success of m-learning is dependent on teachers' development on m-learning (United Nations Educational, Scientific and Cultural Organization, 2012).

1.2.2 Past Studies that Had Addressed the Problem

In the past, researchers had engaged in various investigations to analyse users' continuance intention to use m-learning through different pathway.

The combination of UTAUT and Technology Acceptance Model (TAM) was being applied to inspect the factors influencing the continuance intention of mobile learning (Feng, Worrachananun, & Lai, 2015; Rehman, Anjum, Askri, Kamran, & Esichaikul, 2016). Besides, in the study of Gan & Xiao (2015), continuance intention of m-learning was investigated through the integration of UTAUT with an additional variable of perceived enjoyment. This similar topic had also been evaluated using a synthesis of UTAUT, Expectation Confirmation Model (ECM) and TAM (Joo et al., 2016).

Furthermore, there were some studies conducted to inspect the elements that could influence m-learning's continuance intention by using only ECM and also via the integration of ECM and TAM (Thong et al., 2006; Rahmat & Au, 2013). Additional variables such as subjective norm, perceived playfulness and perceived convenience were combined with TAM by Huang, Hsiao, Lien and Tang (2014) and Chang, Liang, Yan and Tseng (2013) in their study to explore the factors of m-learning continuance intention.

1.2.3 Deficiencies in Past Studies

There are some deficiencies in the past studies of m-learning in education industry. Firstly, many researchers have conducted studies about readiness and intention to adopt m-learning at initial stage (Seyal, Rahman, Ramlie, & Rahman, 2015; Song, Murphy, & Farley, 2013). However, investigation on users' continuance intention of m-learning in post-adoption stage was limited.

Moreover, most studies focused on students rather than academicians (Jambulingam, 2013; Yeap, Ramayah, & Soto-Acosta, 2016). In fact, the researchers should put greater effort in examining the academicians' intention to use mobile technology in their teaching continuously as they

have positive facilitator role in students' continuance intention towards m-learning (Abu-Al-Aish & Love, 2013; Information Resources Management Association, 2016).

Even there were some investigation done on academicians, they are mainly conducted among academicians in public universities, and this could be one of the deficiencies (Mahat, Ayub, & Wong, 2014; Tan, Ng, & Lee, 2013; Hamat, Embi, & Hassan, 2012). According to Malaysia Qualifications Agency (MQA) (2017), there are 75 private universities and 34 public universities in Malaysia as at 2017. Therefore, it would be more meaningful to carry out study regarding on continuous intention to adopt m-learning in private universities.

1.3 Research Objectives and Questions

1.3.1 General Research Objectives and Questions

Table 1.1: General Research Objective and Question

Num.	General Research Objective	General Research Question
1	To determine the factors affecting the continuance intention of m-learning among academicians in Malaysian private university.	What are the factors that affect the continuance intention of m-learning among academicians in Malaysian private university?

Source: Developed for the research

1.3.2 Specific Research Objectives and Questions

Table 1.2: Specific Research Objectives and Questions

Num	Specific Research Objectives	Specific Research Questions
1	To investigate the relationship between performance expectancy and continuance intention of m-learning among academicians in Malaysian private universities.	What is the relationship between performance expectancy and continuance intention of m-learning among academicians in Malaysian private universities?
2	To investigate the relationship between effort expectancy and continuance intention of m-learning among academicians in Malaysian private universities.	What is the relationship between effort expectancy and continuance intention of m-learning among academicians in Malaysian private universities?
3	To investigate the relationship between social influence and continuance intention of m-learning among academicians in Malaysian private universities.	What is the relationship between social influence and continuance intention of m-learning among academicians in Malaysian private universities?
4	To investigate the relationship between facilitating conditions and continuance intention of m-learning among academicians in Malaysian private universities.	What is the relationship between facilitating conditions and continuance intention of m-learning among academicians in Malaysian private universities?
5	To investigate the relationship between self-efficacy and continuance intention of m-learning among academicians in Malaysian private universities.	What is the relationship between self-efficacy and continuance intention of m-learning among academicians in Malaysian private universities?

Source: Developed for the research

1.4 Significance of the Study

1.4.1 Academic Significance

Theoretically, findings from this study enhanced the existing body of knowledge on continuance intention by applying the newly proposed model to explain the factors influencing the continuance intention towards m-learning among academicians in Malaysian private universities. The addition of self-efficacy in UTAUT in this research provided a more comprehensive and improved understanding on the continuance intention compared to the sole interpretation by UTAUT. It also shed new light on the influence of the self-efficacy towards continuance intention. This study can contribute to future researchers to adopt this modified conceptual model to scrutinize on continuance intention in other research contexts.

1.4.2 Practical Significance

Practically, this research increased the awareness of the importance in the perseverance of m-learning effort in pedagogical approach. This encourages academicians to continue incorporate m-learning in their pedagogical methodologies in universities as a whole, where students' engagement in m-learning can be boosted due to the positive influential role of academicians in their adoption of m-learning (Abu-Al-Aish & Love, 2013).

Besides, this study can help to design a more relevant user-centric m-learning tool for teaching purposes. By investigating factors influencing academicians' continuance intention in adopting m-learning, application developer would have a clear and better understanding of academicians' viewpoints, and hence, m-learning methodologies can be further enhanced to better fit the context of academicians in Malaysian private universities.

According to Malaysia Education Blueprint 2013-2025, Government encouraged the maximization of the information and communication technology (ICT) usage for distance and self-paced learning in order to expand students' access to high-quality teaching regardless of location or skill level (Ministry of Education Malaysia[MOE], n.d.). Therefore, this study is imperative as it can align with the MOE's vision of leveraging information technology (IT) usage in the effort of enhancing quality learning in Malaysia.

1.5 Outline of the Study

In this session, the study explored the fundamental of m-learning and the research problems. Besides, research objectives and the importance of this research are also included. In Chapter 2, the fundamental of UTAUT and self-efficacy and the relevant past studies are reviewed. Conceptual model is also proposed. Additionally, in Chapter 3, the process of collecting data from the target audience is evaluated. Analysis and interpretation of data collected in this study will be conducted in chapter 4. Eventually, an extensive discussion of the results obtained will be performed, together with the implications, limitations and future recommendations of the current research in Chapter 5.

CHAPTER 2: LITERATURE REVIEW

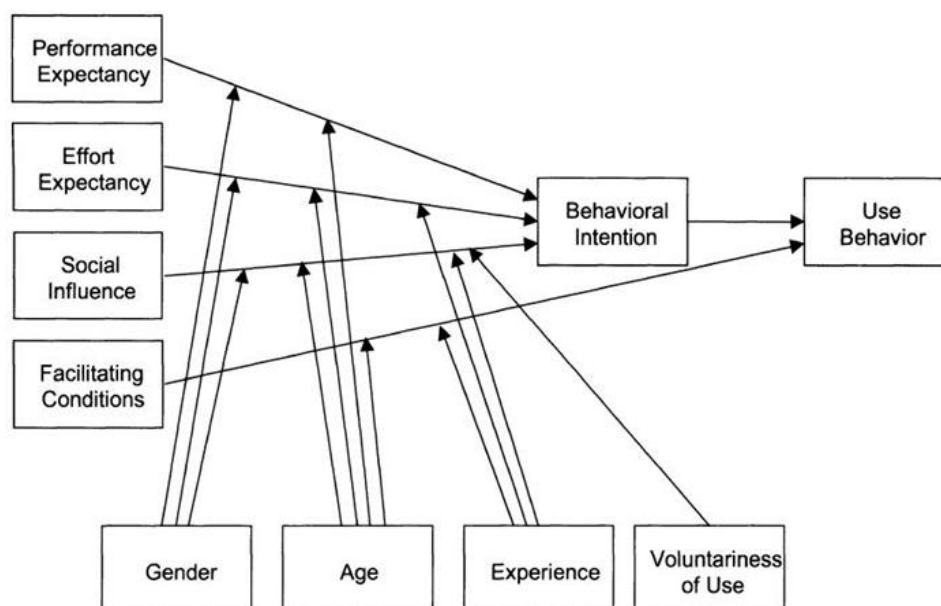
2.0 Introduction

This segment will introduce the theoretical foundation used in current study and examine the past empirical researches of each variable. Moreover, conceptual framework and hypotheses are proposed for the current study.

2.1 Theoretical/Conceptual Foundation

2.1.1 UTAUT

Figure 2.1: UTAUT



Source: Venkatesh, Morris, Davis, and Davis (2003)

The theory being applied in this research is UTAUT. It is originated by Venkatesh et al. (2003) to analyse about the adoption level of the use of IT by predicting the behavioural intention and use behaviour which concerned

primarily in organizational contexts. UTAUT proposed four key determinants namely performance expectancy, effort expectancy, social influence, and facilitating conditions (Thomas, Singh, & Gaffar, 2013). The relationships in UTAUT are moderated by individual differences including gender, age, experience and voluntariness of use (Venkatesh, Thong, & Xu, 2012).

UTAUT is a unified model that integrated the elements of eight theories or models including Theory of Reasoned Action, TAM, Theory of Planned Behaviour (TPB), synthesis of TAM and TPB, Personal Computer Utilization Model, Motivational Model, Innovation Diffusion Theory and Social Cognitive Theory (Venkatesh, 2003). According to Venkatesh et al. (2012), UTAUT is found to be superior as compared to the eight individual models due to its simplicity, parsimony and robustness.

Many researchers had applied UTAUT widely in various contexts such as mobile banking (Bhatiasavi, 2015), e-book adoption (Maduku, 2015), online social network (Wu, Huang, & Hsu, 2014), solar water heater (Saleh, Haris, & Ahmad, 2014), and e-commerce (Musleh, Marthandan, & Aziz, 2015). Table of concept in UTAUT can refer to Appendix B.

2.1.2 Self-efficacy

The concept of self-efficacy had been proposed by Bandura (1977) where it is related to one's perception in his or her effectiveness in executing a particular task. Bandura (1986) asserts that self-efficacy pivot an individual's conviction on his or her capabilities rather than the actual abilities possessed. Through the notion of self-efficacy, Bandura (1994) corroborate its influence on individual's thinking, and motivation and behaviour intention. Users with high level of self-efficacy are more confident in their ability to conduct a particular act, hence, are motivated to be persistent in their endeavours (Dabholkar & Bagozzi (2002) as cited in Hsiao & Tang, 2015). The concept of self-efficacy is further corroborated

in the study of Bhattacharjee, Perols, and Sanford (2008) where it is linked to IT continuance intention and behavior.

Self-efficacy had been employed in different research contexts such as radio frequency identification technology (Hossain & Quaddus, 2011), mobile library applications (Zhang, 2016) and World Wide Web (Hsu, Chiu, & Ju, 2004).

Table 2.1: Self-efficacy

Concept	Definition	Sources	Relationship
Self-efficacy (SE)	The degree of one's belief of his or her ability to manage and perform endeavours to accomplish prescribed level of performance.	Bandura as cited in Zhang, 2016	Self-efficacy will positively influence users' continuance intention.
	The extent of one's judgment on his or her competence to execute conduct and accomplish goals in a particular circumstance.	Susanto, Chang, & Ha, 2016	
	One's perception on his or her abilities and cognitive resources required to accomplish specific tasks.	Tanantaputra, Chong, & Rahman, 2017	
	The extent to which an individual believe in his or her capabilities to execute a particular conduct independently.	Bhattacharjee et al., 2008	

Source: Developed for the research

2.1.3 Applications of Revised UTAUT model and Self-efficacy in this Research

In this study, all the four variables of UTAUT are adopted with an additional construct of self-efficacy to develop the conceptual model to predict the factors influencing the continuance intention of m-learning among academicians in Malaysian private universities.

For the current research, two changes are made to UTAUT in order to develop a revised UTAUT model. First of all, the relationship between facilitating conditions and continuance intention is formulated. Additionally, the moderators in the UTAUT model are excluded for current study.

In the conceptualization of UTAUT model, Venkatesh et al. (2003) proposed that facilitating conditions would only impact the use behaviour instead of behavioural intention. However, it was argued that there should be a linkage between facilitating conditions and behavioural intention (Dwivedi, Rana, Jeyaraj, Clement & Williams, 2017). The relationship between facilitating conditions and continuance intention is included in this study based on several empirical studies (Huang, 2017; Wu et al., 2014; Rezaei, Shahijan, Amin, & Ismail, 2016) which proved that facilitating conditions had positive influence on the continuance intention.

Furthermore, the moderators of age, gender, experience and voluntariness of use are disregarded in this research. Age, gender and experiences are excluded because their differences are proven to be insignificant (Albugami & Bellaaj, 2014; Kimball, 2015). Age and gender are excluded because only a relatively small sample of the population is employed in the research, which prohibits the effective comparison across the demographic characteristics of the sample (Gruzd, Staves, & Wilk, 2012). Furthermore, experience is dropped since all the respondents in this research must have experiences in using m-learning, making it inappropriate to be a moderator variable in the research (Badioze Zaman, Robinson, Olivier, Shih, &

Velastin, 2013). Lastly, voluntariness of use is excluded as mobile learning is a voluntary approach where it is triggered by individual intrinsic wants (Venkatesh et al. (2003) as cited in Moryson & Moeser, 2016). Hence, all these moderators are eliminated for this research.

Although UTAUT emphasizes on organizational contexts, it was also being applied widely to examine the adoption of ICT from consumers' perspective as well (Mutlu & Der, 2016). Its application in consumer context was found in various empirical studies relating to mobile payment (Abrahão, Moriguchi, & Andrade, 2016), online ticket (Escobar-Rodríguez & Carvajal-Trujillo, 2014) and internet banking (Abu-Shanab & Pearson, 2007; Tsai, Zhu, & Jiang, 2013). In addition, the study of Oye, A.Iahad, and Ab.Rahim (2012) confirmed the eligibility of UTAUT in education system as the four UTAUT constructs were verified to have impacts on university academicians' behavioral intention towards the acceptance and use of ICT for teaching and learning

Moreover, self-efficacy is added as an additional variable because there are increasing studies that corroborated the influence on self-efficacy on continuance intention (Bhattacharjee et al., 2008; Cheung, Lee, and Lee, 2013; Susanto et al., 2016). Rezaei et al. (2016) posit the positive impact of self-efficacy on an individual perseverance of effort in the event of challenges. Bhattacharjee et al. (2008) further assert that the notion of self-efficacy focus more on individual personal characteristics. Hence, the inclusion of self-efficacy in the proposed model can help to solve the problem of UTAUT, which focus more on organizational aspects. Besides, empirical evidences from the past studies had proven that the element of self-efficacy is commonly incorporated in the organizational context such as organizational behavior (Gardner & Pierce, 1998; Gist, 1987). Therefore, the addition of self-efficacy to the revised UTAUT model in the current research would not constitute a problem.

2.2 Review of the Prior Empirical Studies

2.2.1 Continuance Intention of M-learning

In the long-term context, the persistence in intention to employ m-learning is what constitutes the continuance intention of m-learning (Bhattacharjee (2001) as cited in Bhattacharjee et al., 2008). Rogers's (1995) study (as cited in Bhattacharjee, 2001) articulates that technology adopters tend to review their initial adoption decision. During the reassessment, there is a possibility of users ceased to continue employing the proposed innovation. This phenomenon could be described as acceptance-discontinuance anomaly, where users adopt m-learning initially but discontinue in engaging it in post-adoption stage (Lee, 2010). It hindered m-learning mechanism because low utilization of m-learning after the initial adoption fervency may lead to wastage in terms of technology development cost and effort (Thong et al., 2006). The success of m-learning pedagogical approach ultimately depends on the continuance usage rather than the initial adoption (Bhattacharjee, 2001).

Moreover, Ajzen (2002) asserts that the precursor of behaviour is presumed to be intention. When there is a strong intention by an individual to implement m-learning, there is a high probability that the individual will actually incorporate m-learning in the educational mechanism (Venkatesh, Morris, & Ackerman, 2000). Besides, the difficulty in assessing the actual adoption level caused the intention to adopt being a better predictor of conduct rather than actual adoption (Schuitema, Anable, Skippon, & Kinnear, 2013). As evidence, many studies in educational dimension such as m-learning (Cheon, Lee, Crooks, & Song, 2012), e-learning (Lee, 2010; Ho, 2010), and e-book (Tri-Agif, Noorhidawati & Ghalebardi, 2016) had their researches pivoted on intention rather than actual adoption. Therefore, it is imperative for the research on m-learning to focus on the continuance intention.

2.2.2 Performance Expectancy

Performance expectancy is defined as degree to which a user perceived that he or she will receive the advantage of using a technology when performing certain activity. (Venkatesh et al., 2012). According to Gan and Xiao (2015), users will intend to continue adopt mobile reading when they discovered that system is beneficial and conducive for their working or learning life.

Besides, Lwoga and Komba (2015) found that when student perceived that web-based learning management systems is useful, where it will increase their effectiveness and productivity in completing their course tasks promptly, they will prefer to continue using e-learning system.

Moreover, performance expectancy had been proven by Chang and Xue (2017) who stated that users are more willing to continue employ Facebook when they think that Facebook is advantageous or fun for their jobs and life.

Furthermore, performance expectancy had been proven by Moez, Ines and Moteb (2015) where students tend to continue adopt e-learning system when they perceived it as a useful system which provides many advantages to student in performing their activities.

On the other hand, Lim, Romle, Salahuddin, Abdullah Osmanb, and Safizal (2016) assert that performance expectancy only have a weak positive relationship with online shopping behaviour, indicating that it may be insufficient to explain the students' actual online shopping behaviour.

2.2.3 Effort Expectancy

Effort expectancy is interpreted as the extent to which a learner believed that adopting a system is free of effort. (Chiu and Wang, 2008) In the research by Azam (2015), effort expectancy has a direct positive effect on user

continuance intention towards mobile banking. Users are willing to continue using a system that is easy to use and access instead of a system that required a great mental effort to operate.

Yueh, Huang and Chang (2015) also denoted that effort expectancy positively affects students' continuance usage intention of a Wiki system. If students perceived that using Wiki system is easy, they are likely to continue employing the system.

Lu and Lee (2012) indicated that effort expectancy is positively correlated with the continuance intention of blog sharing. Users would be more motivated to continuously share information through blogs if blogging requires minimal users' effort.

Furthermore, Gan and Xiao (2015) proposed that effort expectancy gives significant impact towards continue usage of mobile reading. Individual is more likely to continue using mobile reading system if it is easy to use. Hence the developer of reading system should provide easily operated reading software to their users.

However, Mohammadyari and Singh (2014) argued that the impact of effort expectancy towards the continuance intention of using e-learning is only mild. They found that if e-learning does not contain any useful information, users will not continue using it even though it is easy to use.

2.2.4 Social Influence

Social influence is clarified as the degree to which users perceived that the significant others such as family and friends believed that they should employ a particular technology (Venkatesh, et al., 2012). Sun et al. (2014) proved that social influence is positively related to the continuance intention of online social network sites (SNS). Users' continuance intention to use

was enhanced when users anticipate that more friends or relatives will be using the SNS in the future.

The positive influence of social influence towards the intention to use m-Banking was proven by Oliveria, Faria, Thomas and Popovic (2014). Individual is motivated to employ m-Banking if their peers or family members valued m-Banking.

Furthermore, Mouakket (2015) assert the positive impact of social influence on continuance usage intention to use Facebook among university students. It is believed that when people who are important to an individual strongly support the use of Facebook, the individual will most likely to comply with the group's opinion and continue using Facebook.

In contrast, Fuksa and Binde (2013) predicted that social influence did not affect the intention to employ mobile internet usage. There is only a neutral correlation between media and society on users' adoption on mobile internet usage. Moreover, Leeraphong and Mardjo (2013) also supported that social influence is insignificant in affecting consumer's purchase intention. Consumer is most likely influenced by other factor such as perceived risk that they feel is more important to them.

2.2.5 Facilitating Conditions

Facilitating conditions refer to the extent where an individual presumed that organizational and technical resources are available to encourage the utilization of the system (Venkatesh et al., 2003). The study of Huang (2017) supports the positive effect of facilitating conditions on continuance intention. The widespread information system adoption and advance internet accessibility allow users to have continuance intention to use Webmail system.

This positive correlation was confirmed by Wu et al. (2014). As the level of facilitating conditions getting higher, uncertainty and doubtfulness tend to be reduced and hence, users' continuance intention to use online social network increase.

Facilitating conditions was proven to have positive impacts on continuance intention where consumers will use apps store continuously for shopping purpose due to the good understanding of and low cost in accessing to the Internet (Rezaei et al., 2016).

Lurudusamy and Ramayah (2016) explain the significance of facilitating conditions towards continuance intention to use broadband internet technology, where continuance intention is created when resources, knowledge and assistance of technical help desk are available.

On the other hand, Aziz's (2015) study rejected the significant positive correlation between facilitating condition and continuance intention to adopt smart devices as u-learning tools. It is argued that this influence is only presented among older women but the respondents were mostly young students.

2.2.6 Self-Efficacy

Self-efficacy denotes the extent of one's judgment on his or her competence to execute conduct and accomplish goals in a particular circumstance (Susanto et al., 2016). In the research conducted by Susanto et al. (2016), there is a positive relationship between self-efficacy and continuance intention of smartphone banking services. Users who perceived themselves to be proficient in conducting smartphone banking services will be more confident towards the services and hence, intend to repeat usage.

Besides, Cheung et al. (2013) corroborated the positive influence of self-efficacy towards continuance intention. When the educators think that they can contribute knowledgeable information to the other users in the education portal, there will apt to continue sharing knowledge in the online community of practice.

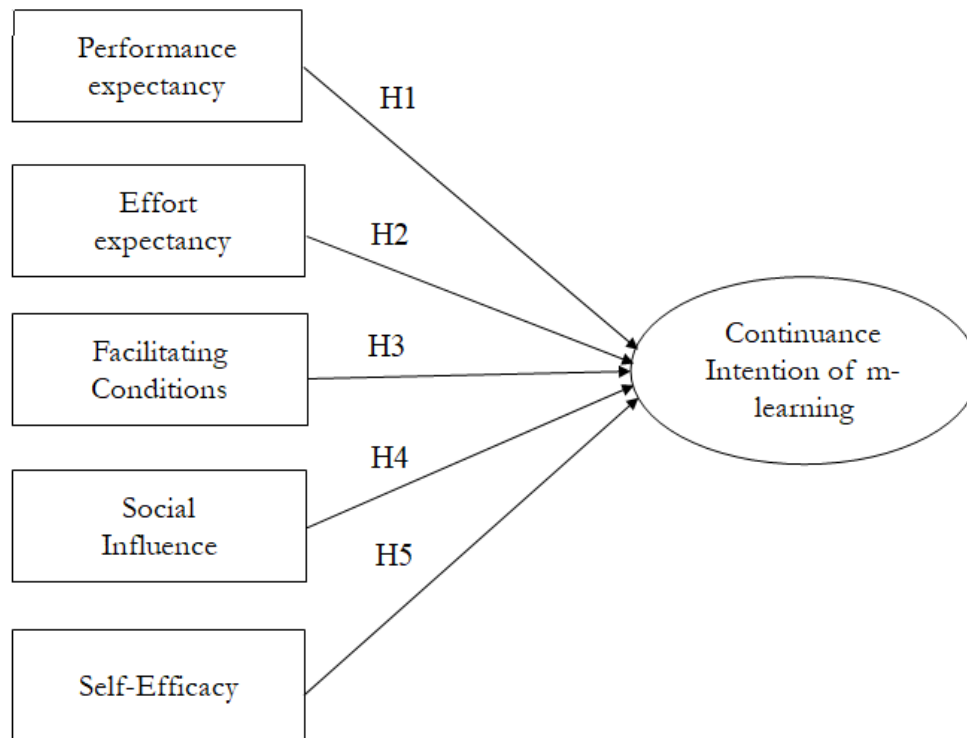
Warkentin, Johnston, Shropshire, and Bennett (2016) posit that self-efficacy positively influences users' intention to continue to engage in protective security behaviours. Users are likely to continue employ protective security behaviour when they perceived that they are capable to enact the recommended solution.

Moreover, Wang, Jackson, Wang and Gaskin (2015) further enhance the significance of self-efficacy towards users' attitudes in their research. In the event of difficulties, users with high self-efficacy will confront it as a challenge instead of giving up.

Notwithstanding the past studies accentuating the importance of self-efficacy towards users' continuance intention, Chiu and Tsai (2014) rebutted the significance effect in their research. According to Chiu and Tsai, the advanced internet self-efficacy was proven to be insignificant towards nurses' web-based continuing learning. They argued that the one's belief in his or her capability to execute Internet functions does not possesses any direct influence on his or her attitude towards web-based learning. It further asserted that the self-efficacy may only boost one's motivation towards using Internet indirectly because the confidence in using Internet does not necessarily complement to the practical usage of it.

2.3 Proposed Conceptual Framework/Research Model

Figure 2.2: Conceptual model



Source: Developed for the research

2.4 Hypothesis Development

Table 2.2: Hypothesis Development

H1: There is a positive relationship between performance expectancy and continuance intention of m-learning among academicians in Malaysian private universities.
H2: There is a positive relationship between effort expectancy and continuance intention of m-learning among academicians in Malaysian private universities.
H3: There is a positive relationship between social influence and continuance intention of m-learning among academicians in Malaysian private universities
H4: There is a positive relationship between facilitating conditions and continuance intention of m-learning among academicians in Malaysian private universities.
H5: There is a positive relationship between self-efficacy and continuance intention of m-learning among academicians in Malaysian private universities.

Source: Developed for the research

CHAPTER 3 : RESEARCH METHODOLOGY

3.0 Introduction

A general review is conducted on the research methodology for the current research. This section constitutes of the research design, data collection method, sampling instrument, constructs measurement, data processing and analysis method used to collect empirical data for this study.

3.1 Research Design

A quantitative research is conducted to investigate the determinants of continuance intention of m-learning among academicians in Malaysian private universities through the effect of five variables including performance expectancy, effort expectancy, social influence, facilitating conditions and self-efficacy. Data collection via survey method is preferred as it can cover large population and large amount of information can be collected quickly and at fairly low cost (Ponto, 2015; Kelley, Clark, Brown, & Sitzia, 2003). It is a cross-sectional research because data will be collected at one time point over a short period (Levin, 2006). Self-administered survey questionnaires are distributed to the target respondents for data collection.

3.2 Population, Sample and Sampling Procedures

3.2.1 Target Population

This paper aims at academicians in Malaysian private university who adopted m-learning before as the target respondents. For current research, academicians included tutors, assistant lecturers, lecturers, assistant professors and professors. Academicians were chosen because of their positive influence towards student's acceptance of m-learning. There is a high probability that students will engage in mobile learning if their educators adopted m-learning (Information Resources Management Association, 2016; Abu-Al-Aish & Love, 2013). Moreover, Choong, Keh, Tan and Tan's (2013) study (as cited in Rathakrishnan, Ng, & Tee, 2016) asserts that academicians play a key role in the success of higher education institutions. Hence, in the educational paradigm, it will be more relevant for the research to be pivoted on academicians.

One of the reasons of setting the target respondents of current research in Malaysian private universities is because of this similar issue had been studied in many Malaysian public universities (Lee, Ng, & Tan, 2013; Mohamed et al., 2012) as well as in foreign countries (Mac Callum, Jeffrey, & Kinshuk, 2014). Hence, there is a dearth of studies regarding academicians' continuance intention in using m-learning conducted among private universities. Moreover, the statistic of MOE 2015 showed that the total number of academic staff in private universities is more than public universities, in which the former is 34,039 while the latter is 31,723 (Chia, 2017). Besides, according to MQA (2017), there are 75 private universities and 34 public universities in Malaysia in year 2017. Both of these statistics show that there is a greater population of academicians in private universities. Hence, it would be more meaningful to carry out research among private universities.

3.2.2 Sampling Frame and Sampling Location

In this research, sampling frame is unavailable as there are some private universities that do not provide staff directory, making it infeasible to obtain a directory showing the list of academicians in Malaysian private universities. Selangor and Wilayah Persekutuan Kuala Lumpur (KL) state are chosen for the current study as it consists of 46 out of 75 private universities which constitutes to 61.33% of the target population (MQA, 2017). Hence, it is sufficient to represent the whole population.

Taylor's University, Multimedia University (MMU), Universiti Tenaga National (UNITEN), Limkokwing University of Creative Technology, Universiti Tunku Abdul Rahman (UTAR) and UCSI University are selected as the sampling locations. This list of universities is chosen by filtering private universities in Selangor and KL that ranked in the QS University Rankings: Asia 2016 (Appendix D). According to Douch, Savill-Smith, Parker, and Attewell's (2010) study (as cited in Mehdipour & Zerehkafi, 2013), mobile learning could assist academicians to reflect on their teaching practice and hence, contribute in enhancement of academicians' performance in their teaching methodology.

Considering that academicians' performance is one of the criteria to determine universities' ranking, selection of higher ranking university is more relevant in determining the factors impacting the continuance intention of academicians towards m-learning.

3.2.3 Sampling Size

From the view of Hinkin (1995), a suitable sample size ought to have an item to react ratio at a range of 1:4 to 1:10 for each set of variables. The range sample size of 100 to 250 is considered as adequate for this research as the questionnaire consists of 25 items. Thus, sample size of 250

academicians is chosen. Before distributing the questionnaire to target respondents, a pilot test will be conducted involving 30 academicians in UTAR to confirm the reliability of questionnaire.

3.2.4 Sampling Techniques

Sampling is the technique of selecting a suitable sample for the purpose of determining parameters (Wilumila, n.d.). Sampling is required because it is infeasible for the census of the population to be researched due to time and cost constraint (Awwad & Al-Majali, 2015).

In this study, due to the fact that the sampling frame is unknown, non-probability sampling is applicable. For this research, quota sampling will be applied where the six target universities were first divided according to the number of academic staff in each university. Then, questionnaires will be distributed to academicians according to the proportion of staff (Appendix E).

3.3 Data Collection Method

For this study, primary data in form of self-administered survey questionnaire is used as the data collection method. Data is collected from 15 January 2018 until 31 January 2018 where questionnaires will be distributed to academicians in Taylor's University, MMU, UNITEN, Limkokwing University of Creative Technology, UTAR and UCSI University.

3.4 Variables and Measurement

In this research, a total of 25 items were incorporated to measure six constructs. The items among the survey questionnaire were taken from previous studies and tailored to the context of continuance intention of m-learning. The details of the survey items could be found in Appendix G. All the items were measured using five-point likert scales (1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=strongly agree). Marton-Williams's (1986) study (as cited in Alharbi & Sayed, 2017) asserts that five-point scale assisted respondents in understanding and expressing their opinions. Besides, reduced frustration level and improved response rate and quality can be achieved with the use of five-point scale (Babakus & Mangold (1992) as cited in Buttle, 1996).

Table 3.1: Operational Definitions of Variables

Variable	Definition	Source
Performance expectancy (PE)	Performance expectancy defines as the degree to which a person believes that using the system will assist him or her to improve in job performance.	Umrani Khan & Iyer, 2009
Effort Expectancy (EE)	The extent to which a learner believe that using a system is free of effort.	Chiu & Wang, 2008
Social Influence (SI)	The extent to which consumers perceive that important others like family and friends, believe they should use a particular technology	Venkatesh et al. 2012

Facilitating Conditions (FC)	People's perceptions of factors that enable or challenge their technology-use behavior	Maduku, 2015
Self-efficacy (SE)	The degree of one's belief of his or her ability to manage and perform endeavours to accomplish prescribed level of performance.	Bandura as cited in Zhang, 2016
Continuance intention of m-learning (CI)	The degree of users' intention to constantly employ m-learning	Shin as cited in Liou et al., 2015

Source: Developed for the research

3.5 Data Analysis Techniques

3.5.1 Descriptive Analysis

Frequency and percentage test will be conducted to describe the characteristics of academicians such as gender, age, marital status and education level. The mean, standard deviation, mode, maximum and minimum of the variables will be stated.

3.5.2 Inferential Analysis

3.5.2.1 Reliability Test

Malhotra and Peterson (2006) define reliability test as the measurement of consistency and accuracy level of the result for the constructs. Cronbach's Alpha is applied to examine the reliability of questionnaire items where items are reliable if the alpha transcends 0.70 (Nunnally & Bernstein (1994) as cited in Iacobucci & Duhachek, 2003).

3.5.2.2 Normality Test

Data should be normally distributed in order to run regression analysis successfully (Al-Hujran, Al-Lozi, & Al-Debei, 2014). The normality test will be conducted through Skewness and Kurtosis, where the questionnaire items is acceptable when skewness is within ± 1 and kurtosis is within ± 2 (Hair, Black, Babin, & Anderson, 2010).

3.5.2.3 Person's Correlation Analysis

Person's Correlation Coefficient measures the intensity of relationship between two variables that are normally distributed (Mukaka, 2012). The strength of the relationship is represented by r and significant relationship is indicated when $p\text{-value} < 0.05$. Coefficient is measured in scale within ± 1 , where $+1$ = positive relation, -1 = negative relation, and 0 = no linear association between two variables (Sedgwick, 2012).

3.5.2.4 Multiple Linear Regression Analysis

Multiple Linear Regression Analysis explores the relationship between multiple independent variables and one dependent variable (Campbell &

Campbell, 2008). Normality, linearity, and multicollinearity test must be fulfilled before this analysis can be run (Osborne & Waters, 2002). The coefficient of determination (r^2) explains the prediction of variation in the dependent variable by independent variables and model fit is achieved if p -value < 0.05 (Uyanık & Güler, 2013).

CHAPTER 4 : DATA ANALYSIS

4.0 Introduction

This segment illustrates the analysis outcome of data collection among 250 target respondents by using SAS Enterprise Guide 7.1. The following section discusses about the descriptive analysis, scale measurement, and inferential analysis of the data obtained in the research.

4.1 Descriptive Analysis

4.1.1 Respondents Demographic Profile

The first segment of the survey questionnaire comprised of the demographic characteristic of the respondents. It has been split into seven questions including the respondents' experience in using mobile learning, gender, age, marital status, education, experience, and current position.

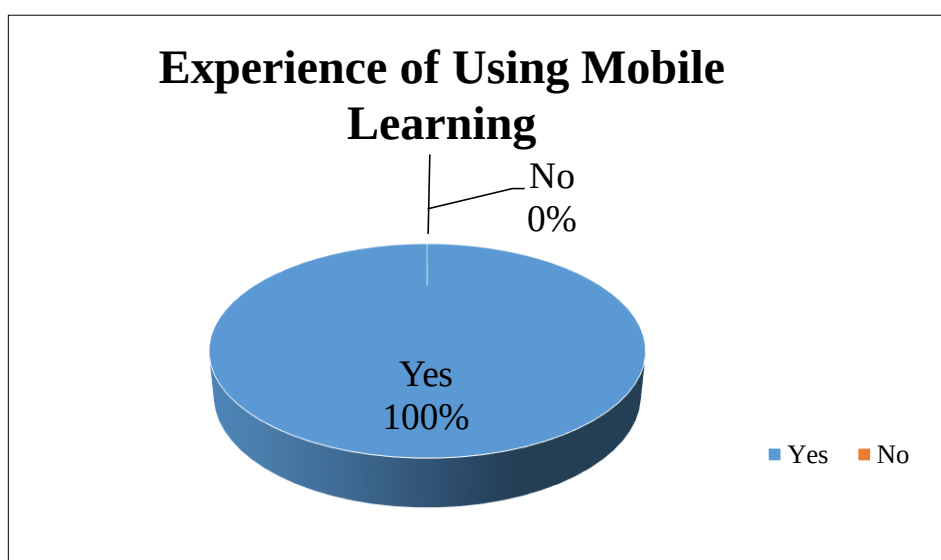
4.1.1.1 Experience of respondents in using mobile learning

Table 4.1: Experience of respondents in using mobile learning

	Frequency	Percentage
Yes	250	100%
No	0	0
Total	250	100%

Source: Developed for the research

Figure 4.1: Experience of respondents in using mobile learning



Source: Developed for the research

Table 4.1 and Figure 4.1 depicted that all 250 respondents (100%) had adopted mobile learning before.

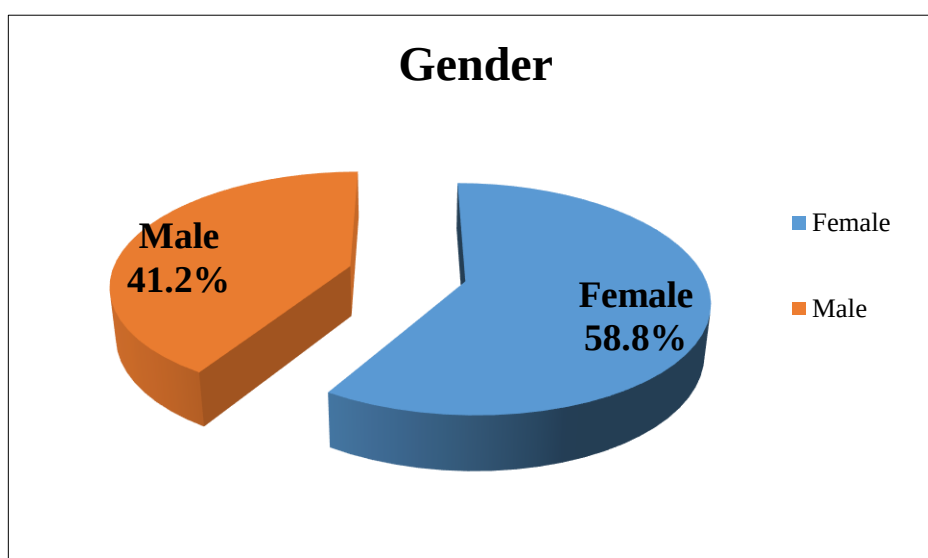
4.1.1.2 Gender of respondents

Table 4.2: Gender of respondents

	Frequency	Percentage
Female	147	58.80%
Male	103	41.20%
Total	250	100%

Source: Developed for the research

Figure 4.2: Gender of respondents



Source: Developed for the research

According to table 4.2 and Figure 4.2, there are 147 (58.8%) female respondents and 103 (41.2%) male respondents participated in this research.

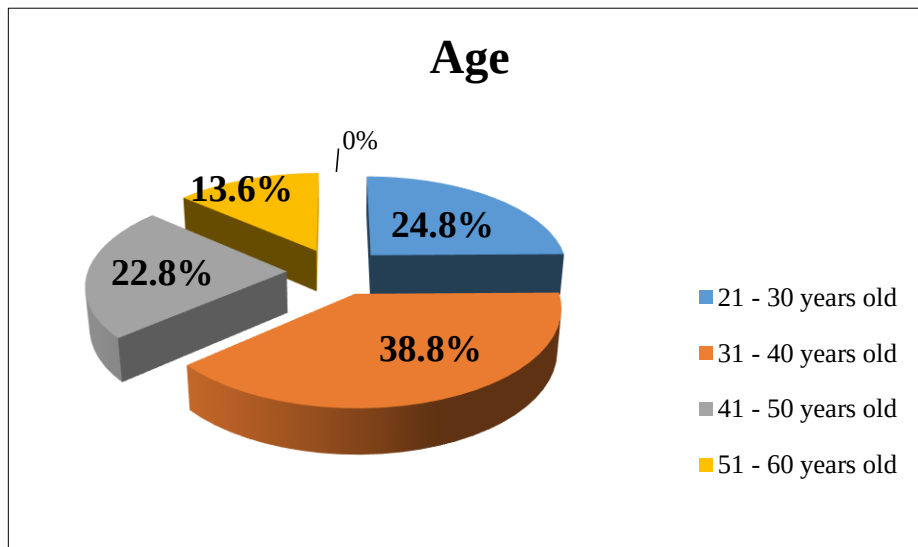
4.1.1.3 Age of respondents

Table 4.3: Age of respondents

4	Frequency	Percentage
21 – 30 years old	62	24.80%
31 – 40 years old	97	38.80%
41 – 50 years old	57	22.80%
51 – 60 years old	34	13.60%
Above 60 years old	0	0%
Total	250	100%

Source: Developed for research

Figure 4.3: Age of respondents



Source: Developed for the research

Table 4.3 and Figure 4.3 demonstrated the age groups of respondents. The highest number of respondents originated from age group 31 to 40 years old with 97 respondents (38.8%), followed by age group 21 to 30 years old with 62 respondents (24.8%), and 42 to 50 years old (22.8%). The least number of respondents is those within age range from 51 to 60, representing by 13.6%.

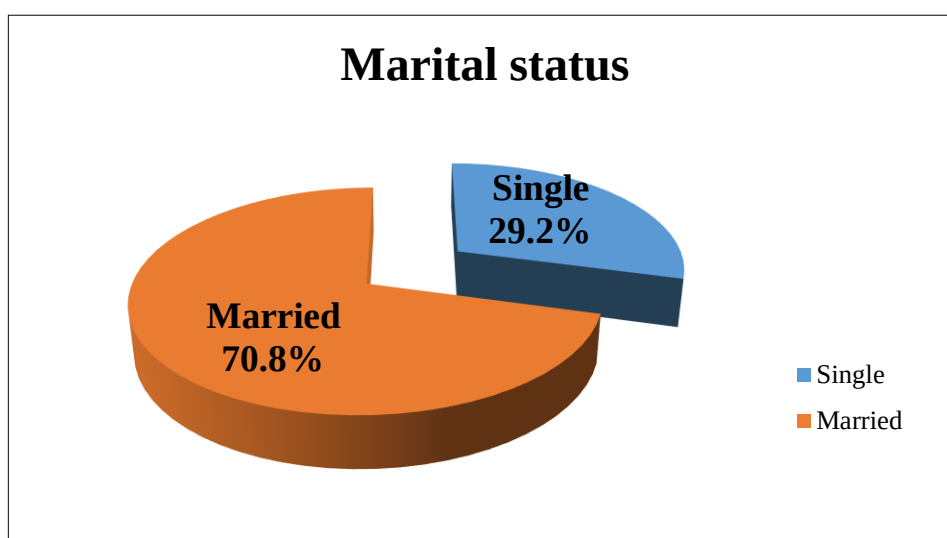
4.1.1.4 Marital status of respondents

Table 4.4: Marital status of respondents

	Frequency	Percentage
Single	73	29.20%
Married	177	70.80%
Total	250	100%

Source: Developed for the research

Figure 4.4: Marital status of respondents



Source: Developed for the research

In accordance to table 4.4 and Figure 4.4, 29.2% of the respondents (73) are single, whereas the remaining 70.8% (177) are married.

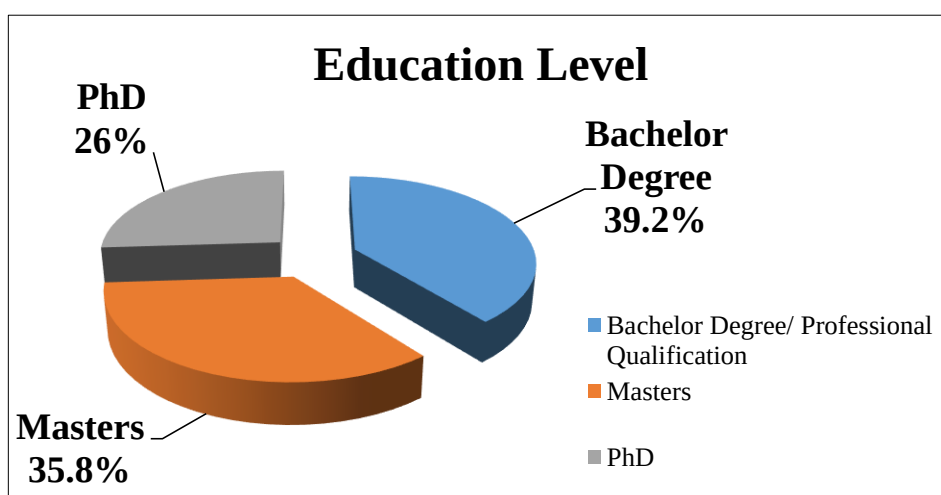
4.1.1.5 Education level of respondents

Table 4.5: Education level of respondents

	Frequency	Percentage
Bachelor Degree/ Professional Qualification	98	39.20%
Masters	87	34.80%
PhD	65	26.00%
Total	250	100%

Source: Developed for the research

Figure 4.5: Education level of respondents



Source: Developed for the research

Among the group of 250 respondents, 39.2% of the respondents (98) possess bachelor degree or professional qualification. Meanwhile, 35.8% of respondents (87) possess masters. The remaining of 26% of respondents (65) possesses PhD.

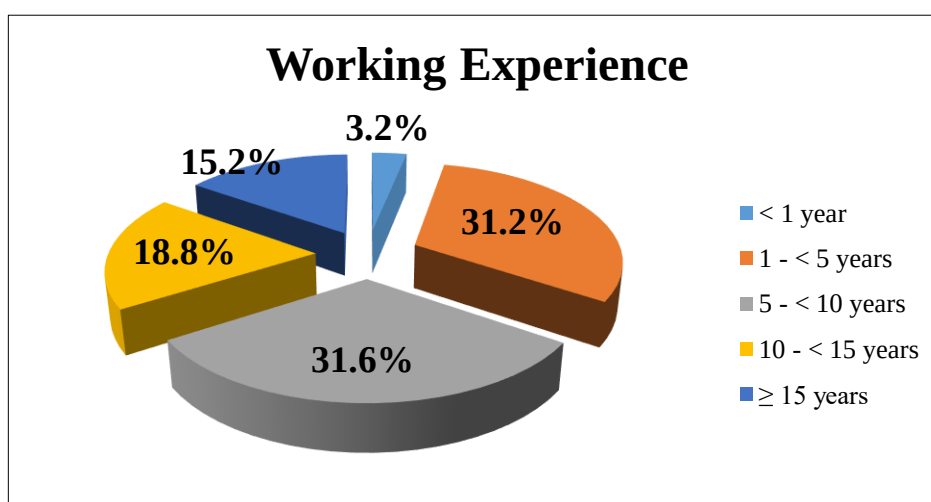
4.1.1.6 Working experience of respondents

Table 4.6: Working experience of respondents

	Frequency	Percentage
Less than 1 year	8	3.20%
1 to less than 5 years	78	31.20%
5 to less than 10 years	79	31.60%
10 to less than 15 years	47	18.80%
15 years or more	38	15.20%
Total	250	100%

Source: Developed for the research

Figure 4.6: Working experience of respondents



Source: Developed for the research

31.6% (79) of the target respondents have working experience for 5 to less than 10 years whereas 31.2% (78) of the respondents worked for 1 to less than 5 years. Moreover, 18.8% (47) of the respondents have working experience for 10 to less than 15 years and 15.2% (38) of the respondents worked for more than 15 years. Lastly, only 3.2% (8) of the respondents have working experience for less than one year.

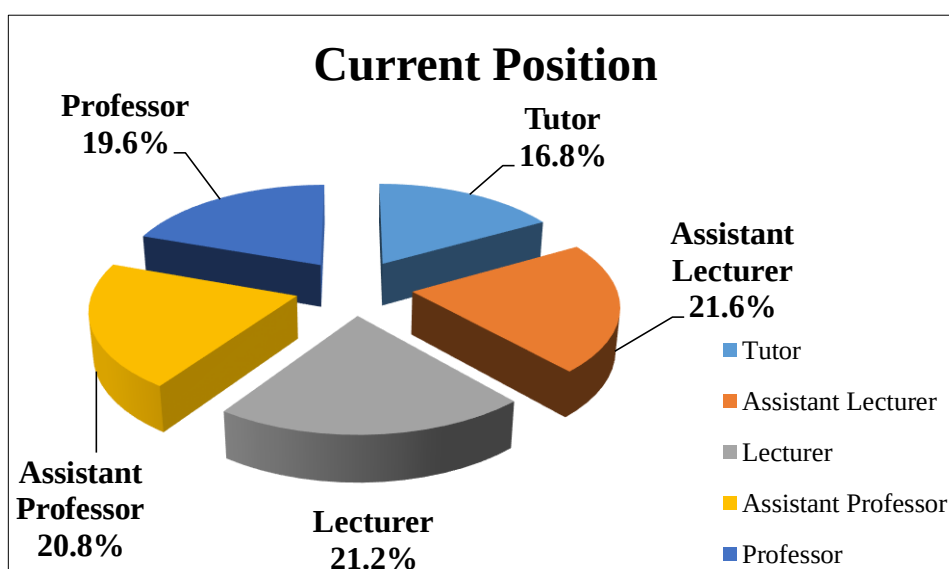
4.1.1.7 Current position of respondents

Table 4.7: Current position of respondents

	Frequency	Percentage
Tutor	42	16.80%
Assistant Lecturer	54	21.60%
Lecturer	53	21.20%
Assistant Professor	52	20.80%
Professor	49	19.60%
Total	250	100%

Source: Developed for the research

Figure 4.7: Current position of respondents



Source: Developed for the research

Based on the results, 54 academicians (21.6%) are currently holding a position of assistant lecturer. This is followed by lecturer, assistant professor, professor and lastly tutor with the percentage of target respondents of 21.2% (53), 20.8% (52), 19.6% (49) and 16.8% (42) respectively.

4.2 Scale Measurement

4.2.1 Reliability test

Table 4.8: Reliability Test (Pilot Test)

Independent Variables	Cronbach's Alpha	Dependent Variable	Cronbach's Alpha
PE	0.7522	CI	0.8042
EE	0.8712		
SI	0.8082		
FC	0.7223		
SE	0.8876		

Source: Developed for the research

Table 4.8 illustrated the outcome of reliability test conducted for each variable. The values of Cronbach's alpha exceed by ranging from 0.7223 to 0.8876. Therefore, all the survey items are reliable and consistent (Nunnally & Bernstein as cited in Iacobucci & Duhachek, 2003).

Table 4.9: Reliability Test (Final Test)

Independent Variables	Cronbach's Alpha	Dependent Variables	Cronbach's Alpha
PE	0.7747	CI	0.8576
EE	0.8548		
SI	0.8121		
FC	0.7247		
SE	0.8761		

Source: Developed for the research

By referring to Table 4.9, it can be concluded that survey items used are reliable and consistent since their Cronbach's alpha value are greater than 0.70, with the range from 0.7247 to 0.8761 (Nunnally & Bernstein as cited in Iacobucci & Duhachek, 2003). Therefore, the questionnaire used in this study is a reliable instrument.

4.2.2 Normality Test

Table 4.10: Normality Test (Pilot Test)

Variables	Items	Mean	Standard Deviation	Skewness	Kurtosis
Performance Expectancy (PE)	PE 1	4.0667	0.6915	-0.0874	-0.7699
	PE 2	4.0667	0.5833	0.0033	0.2289
	PE 3	4.0667	0.7397	-0.6557	0.8418
	PE 4	3.9333	0.8683	-0.5427	-0.1402
	PE 5	3.7333	0.6915	-0.2612	0.2698
	PE 6	3.7333	0.9444	-0.4709	-0.4923

Effort Expectancy (EE)	EE 1	3.9333	0.6915	-0.5830	1.1596
	EE 2	3.8667	0.7303	-0.3550	0.2933
	EE 3	3.8000	0.8052	-0.0340	-0.6064
	EE 4	3.9667	0.8503	-0.6552	0.1852
Social Influence (SI)	SI 1	3.9333	0.7397	0.1079	-1.0854
	SI 2	3.7333	0.7850	0.0659	-0.5272
	SI 3	3.9000	0.6618	0.1071	-0.5568
	SI 4	4.1667	0.6989	-0.2405	-0.8314
Facilitating Conditions (FC)	FC 1	3.9000	0.7589	-0.3348	0.0411
	FC 2	3.8667	0.7303	0.2142	-1.0191
	FC 3	3.8000	0.9965	-0.4659	-0.7113
	FC 4	3.7000	0.6513	-0.4173	0.5230
Self-efficacy (SE)	SE 1	3.8667	0.8193	-0.5470	0.2000
	SE 2	3.8333	0.7915	-0.5796	0.4205
	SE 3	3.5333	0.8604	-0.9803	1.5387
	SE 4	3.8000	0.9248	-0.9755	1.7262
Continuance Intention (CI)	CI 1	4.1333	0.6814	-0.1702	-0.7148
	CI 2	4.2333	0.7279	-0.3963	-0.9573
	CI 3	4.1333	0.7303	-0.2142	-1.0191

Source: Developed for the research

As shown in Table 4.10, the value of skewness for every elements in the questionnaire ranged between -0.9803 and +0.2142 whereas for kurtosis, it ranged between -1.0854 and +1.7262. Based on the results, all data is normally distributed because the results fell within ± 1 and ± 2 respectively (Hair et al., 2010).

Other than that, the mean values of all variables ranges from 3.5333 to 4.2333. The result indicates that majority of respondents ticked 'neutral', 'agree' or 'strongly agree' for each item. At the same time, all the variables have standard deviation less than 1.

Table 4.11: Normality Test (Actual Test)

Variables	Items	Mean	Standard Deviation	Skewness	Kurtosis
Performance Expectancy (PE)	PE 1	4.0200	0.7415	-0.4490	0.3427
	PE 2	4.0320	0.6700	-0.4408	0.5486
	PE 3	4.0960	0.6875	-0.5745	0.7048
	PE 4	3.8840	0.8254	-0.4289	-0.2743
	PE 5	3.7720	0.7057	-0.2675	0.0235
	PE 6	3.7920	0.8440	-0.4949	-0.4066
Effort Expectancy (EE)	EE 1	3.9440	0.6919	-0.3657	0.2487
	EE 2	3.9280	0.7300	-0.4500	0.2284
	EE 3	3.9560	0.7565	-0.3755	-0.1446
	EE 4	4.0360	0.7727	-0.6411	0.3142
Social Influence (SI)	SI 1	4.0760	0.7378	-0.4840	0.3351
	SI 2	3.8600	0.7003	-0.0829	0.0536
	SI 3	3.9680	0.6639	-0.0478	-0.4763
	SI 4	4.1640	0.7065	-0.3817	-0.4506
Facilitating Conditions (FC)	FC 1	3.8400	0.7270	-0.2509	-0.1146
	FC 2	3.8480	0.7176	0.1024	-0.7749
	FC 3	3.7400	0.9444	-0.4391	-0.5299
	FC 4	3.7200	0.6954	-0.2092	-0.0387
Self-efficacy (SE)	SE 1	3.8120	0.8120	-0.5048	-0.0487
	SE 2	3.7640	0.7892	-0.4441	-0.0507
	SE 3	3.5800	0.8236	-0.7802	0.8403
	SE 4	3.7720	0.8962	-0.8168	1.0540
Continuance Intention (CI)	CI 1	4.1480	0.6692	-0.4231	0.1786
	CI 2	4.1800	0.7415	-0.4209	-0.6868
	CI 3	4.1360	0.7208	-0.2747	-0.8210

Source: Developed for the research

The table above depicted the actual results for the normality test. The results for the skewness ranged from -0.8168 to +0.1024 whereas for the kurtosis, it ranged from -0.8210 to +1.0540. Hence, the data is normally distributed

with the consideration that the kurtosis and skewness values are within the range of ± 2 and ± 1 respectively, (Hair et al., 2010).

Furthermore, the mean values of all construct ranges from 3.5800 to 4.1800. This result indicates that majority of respondents ticked 'neural', 'agree' or 'strongly agree' for each item. Meanwhile, the standard deviation of the factors range from 0.6639 to 0.9444, which are less than 1.

4.3 Inferential Analysis

4.3.1 Pearson correlation

Table 4.12: Pearson Correlation Test

Independent Variables	Continuance Intention (CI)
Performance Expectancy (PE)	0.5210
	<.0001
Effort Expectancy (EE)	0.6359
	<.0001
Social Influence (SI)	0.5241
	<.0001
Facilitating Conditions (FC)	0.5578
	<.0001
Self-Efficacy (SE)	0.4159
	<.0001

Source: Developed for the research

Table 4.12 represented the Pearson Correlation Analysis that indicated the strength of relationship between the independent variables and dependent variable. Based on the results, all the predictors had significant relationships to CI as the p-value is less than 0.0001. Evans (1996) classified 0.40 to 0.59 as moderate correlation and 0.60 to 0.79 as strong correlation (Divaris, Vann, Baker, & Lee, 2012). Consequently, EE had strong positive correlation

(0.6359) towards CI whereas PE, SI, FC and SE had moderate positive correlations (0.5210, 0.5241, 0.5578, and 0.4159) with CI.

Table 4.13: Multicollinearity Test

Pearson Correlation Coefficients, N=250 Prob> r under H0: Rho=0						
	PE	EE	SI	FC	SE	CI
PE	1.0000	0.4507	0.4558	0.3953	0.2220	0.5210
		<.0001	<.001	<.0001	0.0004	<.0001
EE	0.4507	1.0000	0.5975	0.5541	0.3882	0.6359
	<.0001		<.0001	<.0001	<.0001	<.0001
SI	0.45588	0.5975	1.0000	0.5554	0.2834	0.5241
	<.0001	<.0001		<.0001	<.0001	<.0001
FC	0.3953	0.5541	0.5554	1.00000	0.2358	0.5578
	<.0001	<.0001	<.0001		0.0002	<.0001
SE	0.2220	0.3882	0.2834	0.2358	1.0000	0.4159
	0.0004	<.0001	<.0001	0.0002		<.0001
CI	0.5210	0.6359	0.5241	0.5578	0.4159	1.0000
	<.0001	<.0001	<.0001	<.0001	<.0001	

Source: Developed for the research

Multicollinearity test indicated the correlation between each predictor and the dependent variable. If the correlation reach to 0.9 positively or negatively, the tested variables are similarly biased to each other (Yoo et al.,

2014). The results in Table 4.13 proved that no multicollinearity problem appeared in this study as all values are less than 0.9.

4.3.2 Multiple Linear Regression Analysis

Table 4.14: Model Summary

Root MSE	Dependent Mean	Coefficient Variation	R-square	Adjusted R-square
0.4286	4.1547	10.3150	0.5428	0.5335

Source: Developed for the research

As explained by Table 4.14, R-square is 0.5428, indicating that 54.28% of the academicians' continuance intention towards m-learning could be justified by the five predictors (PE, EE, SI, FC, EE) in this conceptual model. The balance of 45.72% may be explained by other predictors that are excluded in this study.

Table 4.15: ANOVA

Analysis of Variance (ANOVA)					
Source	DF	Sum of Squares	Mean Square	F Value	Pr> F
Model	5	53.2070	10.6414	57.94	<.0001
Error	244	44.8126	0.1837		
Corrected Total	249	98.0196			

Source: Developed for the research

Based on ANOVA table, F-value (57.94) was significant because the p-value (<.0001) was less than 0.05. This stipulated that there is a minimum of one independent variable had significant relationship with dependent variable. Therefore, the model is statistically significant and fit.

Table 4.16: Coefficients

Parameter Estimates							
Variable	Parameter Estimate	Standard Error	T Value	Pr> t	Standard Estimate	Tolerance	Variance Inflation
Intercept	0.0573	0.2546	0.23	0.8220	0	.	0
PE	0.2745	0.0611	4.49	<.0001	0.2275	0.7311	1.3679
EE	0.3073	0.0616	4.99	<.0001	0.3019	0.5125	1.9513
SI	0.0745	0.0656	1.14	0.2570	0.0667	0.5435	1.8400
FC	0.2418	0.0606	3.99	<.0001	0.2218	0.6060	1.6502
SE	0.1564	0.0417	3.76	0.0002	0.1770	0.8438	1.1852

Source: Developed for the research

Based on the result in Table 4.16, the expression of the regression equation is:

$$CI = 0.0573 + 0.2745(PE) + 0.3073(EE) + 0.0745(SI) + 0.2418(FC) + 0.1564 (SE)$$

CI = Continuance intention of m-learning

PE = Performance Expectancy

EE = Effort Expectancy

SI = Social Influence

FC = Facilitating Conditions

SE = Self-Efficacy

By referring to the equation, all the predictors are positively correlated with the dependent variable. When there is enhancement in PE, EE, SI, FC and SE, the CI will increase by 0.2745, 0.3073, 0.0745, 0.2418 and 0.1564 respectively holding that other four predictors remain constant.

Uyanık and Güler (2013) interpret that the relationship between the predictor and the dependent variable is significant when the p-value is less than 0.05. Hence, in accordance to the p-value, all elements could significantly influence continuance intention except for SI (0.2570).

Moreover, the standard estimate values stipulate the predictive power of each independent variable in influencing the dependent variable. Consequently, EE has the highest influential power towards enhancing CI, followed by PE, FC and SE.

Furthermore, there is no multicollinearity problem in this research since the five predictors have tolerance values exceeding 0.10 and variance inflation factors below 10 (Hair, Black, Babin, Anderson & Tatham, 2005).

CHAPTER 5 : DISCUSSION, CONCLUSION AND IMPLICATIONS

5.0 Introduction

In chapter 5, a comprehensive discussion is conducted to explain on the findings of the data obtained. Moreover, the implications, limitations and recommendations of the current research would be discussed in the section.

5.1 Summary of Statistical Analysis

5.1.1 Summary of Descriptive Analysis

In accordance with the two hundred fifty valid survey questionnaires collected, a total of 147 female and 103 male respondents participated in this paper. Majority of the respondents aged between 31 and 40 years old (38.8%) and held an academic qualification of bachelor degree or professional qualification (39.2%). Among the 250 respondents, more than half (70.8%) of respondents are married, and the remaining (29.2%) respondents are single. Additionally, most of the academicians in this study worked for 5 to 10 years (31.6%) and currently holding a position of assistant lecturer (21.6%). Lastly, all of the target respondents had experienced using mobile learning before.

5.1.2 Summary of Scale Measurement

In short, all variables are reliable and consistent because the Cronbach's alpha value of each factor exceeds 0.7 (Malhotra & Peterson, 2006).

Furthermore, all the constructs is normal distributed as the results of skewness which ranged from -0.8168 to +0.1024, fell within the range of ± 1 , and the value of kurtosis which ranged from -0.8210 to +1.0540, fell within ± 2 (Hair et al., 2010).

5.1.3 Summary of Inferential Analysis

For Pearson correlation analysis, Table 4.12 proved that EE had strong positive correlation (0.6359) towards CI whereas PE, SI, FC and SE had moderate positive correlations (0.5210, 0.5241, 0.5578, and 0.4159) with CI. In addition, table 4.13 and table 4.16 ascertained that multicollinearity problem is absent in this research.

Based on the multiple linear regression analysis, 54.28% of the academicians' continuance intention towards m-learning could be justified by the five determinants in this conceptual model which are PE, EE, SI, FC, and EE. The model fit is achieved as the p-value ($<.0001$) is less than 0.05. In accordance to the p-values, all the elements could significantly influence continuance intention except for social influence (0.2570). The standard estimate values also indicate that EE has the highest influential power towards enhancing continuance intentions, followed by PE, FC and SE.

5.2 Discussion of Major Findings

5.2.1 Performance Expectancy

Table 5.1: Performance Expectancy

Hypotheses	Results
H1: There is a positive relationship between performance expectancy and continuance intention of m-learning among academicians in Malaysian private universities.	Supported

Source: Developed for the research

According to the table above, the result complied with the hypotheses constructed. This is consistent with the relevant past studies which underlined the positive significant influence of performance expectancy towards continuance intention. (Gan & Xiao, 2015; Lwoga & Komba, 2015; Chang & Xue, 2017; Moez, Ines, & Moteb, 2015)

Performance expectancy's positive significance influence on academicians' continuance intention to employ the mobile learning can be proven through current research. When academicians found that m-learning is conducive, where it will enhance their effectiveness and productivity in their pedagogical methodologies, they are more willing to continue adopt m-learning (Gan & Xiao, 2015; Lwoga & Komba, 2015; Chang & Xue, 2017; Moez, Ines, & Moteb, 2015).

In addition, the result from the survey questionnaires further validates the conclusion. From the results, the PE items have a mean higher than 4 with PE3 having the highest mean of 4.096. Majority of the respondents agreed with the PE3 item of 'Using m-learning in teaching enables me to accomplish tasks more quickly'. This supported the positive influence of performance expectancy towards academicians' continuance intention of m-learning.

5.2.2 Effort Expectancy

Table 5.2: Effort Expectancy

Hypotheses	Results
H2: There is a positive relationship between effort expectancy and continuance intention of m-learning among academicians in Malaysian private universities.	Supported

Source: Developed for the research

This study's result has complied with the hypotheses stated in table 5.2. It is proven that effort expectancy significantly influences continuance intention of m-learning among academicians in Malaysian private universities.

The result is in conformity with the prior studies. If academicians perceived that using m-learning is easy, they are likely to employ m-learning continuously (Yueh, Huang, & Chang, 2015; Lu & Lee, 2012; Gan & Xiao, 2015). For the current research, effort expectancy is found to be the most influential variable in determining academicians' continuance intention of m-learning. Academicians in the study considered the ease of use is an important factor in determining their persistence in m-learning endeavours. This may be due to the ease of use in m-learning greatly helped to save the time of academicians in their teaching endeavours as it requires minimal usage effort by academicians, and hence leading to continuance usage intention.

Additionally, most of the respondents agreed to the EE4 item that state "I find the m-learning to be easy to use" with EE4 bearing the highest mean of 4.036 among the 4 items in the questionnaire. This verified that ease of use is of paramount importance in academicians' intention to continue usage.

5.2.3 Social Influence (SI)

Table 5.3: Social Influence

Hypothesis	Result
H3: There is a positive relationship between social influence and continuance intention of m-learning among academicians in Malaysian private universities.	Not Supported

Source: Developed for the research

The results from the above table verified that social influence is insignificant to the continuance intention of m-learning among academicians in Malaysian private universities. This is contrary with the previous researches conducted by Sun et al. (2014), Oliveria et al. (2014), and Mouakket (2015) which asserts that social influence significantly impacts continuance intention.

In respect of the results, external influence will have no effect on academicians' continuance intention of M-learning. Academicians are likely to make independent decision without getting influenced by others. Lim, Osman, Salahuddin, Romle, and Abdullah (2016) proposed that families, friends, and media only have minor influence.

This outcome tallies with the researches of Fuksa and Binde (2013) and Leeraphong and Mardjo (2013). External influence on academicians' continuance intention of m-learning is insignificant as academicians are generally neutral to the extraneous influence in making their own decision. Hence, the decision of academicians whether to continue using or discontinue in using m-learning will be made by academicians on their own without being affected by others' opinion.

Additionally, from the result of survey questionnaire, the p-value of social influence (0.2570) is more than 0.05. Hence, it can conclude that social influence is insignificant to the continuance intention

5.2.4 Facilitating Conditions

Table 5.4: Facilitating Conditions

Hypothesis	Result
H4: There is a positive relationship between facilitating conditions and continuance intention of m-learning among academicians in Malaysian private universities.	Supported

Source: Developed for the research

The above result matched with the past studies of Huang (2017), Wu et al. (2014), Rezaei et al. (2016) and Lurudusamy and Ramayah (2016), in which the positive significant relationship between facilitating condition and continuance intention is supported.

It denoted that availability of organizational and technical resources is important in enhancing users' continuance intention. The findings of this research implied that academicians have greater intention to use m-learning continuously for teaching purpose when there is a supportive working environment and necessary resources such as mobile phones and m-learning applications are available. This can be evidenced through the results generated from the survey questionnaires. The survey item FC2 held the highest mean of 3.848, followed by FC1 with mean of 3.84, meaning that most of the academicians agree that they tend to have continuance usage in adopting m-learning for teaching when their working environment supports them and when they are equipped with relevant resources to use m-learning for teaching. Hence, it can be concluded that facilitating conditions positively and significantly influence continuance intention to use m-learning.

5.2.5 Self-Efficacy

Table 5.5: Self-Efficacy

Hypotheses	Results
H5: There is a positive relationship between self-efficacy and continuance intention of m-learning among academicians in Malaysian private universities.	Supported

Source: Developed for the research

With respect to the above table, the result adhered to the hypotheses constructed. This outcome is in correspondence with the relevant past studies which highlighted the positive significance influence of self-efficacy towards continuance intention (Cheung et al., 2013; Susanto et al., 2016; Warkentin et al., 2016).

This indicated that the personal perceived self-confidence towards his or her ability to execute an action contributed significantly to the users' subsequent post-adoption continuance intention. Embedding into the current research, the academicians' self-confidence towards employing m-learning in the pedagogical approach may significantly influence their intention to continue usage. When they are confident of their capabilities in m-learning, they tend to view difficulties faced during m-learning as a challenge to be tackled, and hence, lead to persistence in the effort of m-learning (Cheung et al., 2013; Susanto et al., 2016; Wang et al., 2015; Warkentin et al., 2016).

In addition, the result from the survey questionnaires further corroborates the conclusion. From the results, the SE items have a mean higher than 3 with SE1 having the highest mean of 3.8120. Majority of the respondents agreed with the SE1 item of „I am confident to use m-learning successfully'. This reiterated the positive influence of academicians' self-confidence in conducting m-learning towards their continuance intention of m-learning.

5.3 Implication

5.3.1 Practical Implication

Based on the results, effort expectancy has the highest influential level in affecting continuance intention of m-learning among academicians in Malaysian private universities. Hence, m-learning system developers should prioritize convenience and ease of use in the development of m-learning tools and aimed to provide the highest level of flexibility in order to promote m-learning among academicians.

Moreover, performance expectancy is discovered to be the second most significant determinants of continuance intention of m-learning in this research. M-learning designers should ensure the m-learning system is developed with adequate functions that can fulfil the expectations and needs of academicians, which in return, contributes to persistence in m-learning efforts by academicians. Besides, the usefulness and advantages of m-learning should be emphasized to the public via various mediums. This can increase public's awareness regarding the significance of m-learning, hence, increasing the probability of users' repeat usage.

Furthermore, facilitating condition is another significant factor. Educational institutions should support the adoption and continuance usage of m-learning among academicians by providing the necessary facilities such as incorporating free Wi-Fi in the universities and encouraging academicians to employ mobile devices in their teaching endeavours.

Self-efficacy is the last significant factors that influence academicians' continuance intention towards employing m-learning. M-learning endeavours as one of the emerging educational paradigms should be included in the life-long learning and development of academicians, hence encouraging academicians to devote in the m-learning efforts. This practice should be encouraged and implemented worldwide by the government,

stipulating the positive benefits of m-learning. Through obtaining high knowledge towards m-learning, academicians will tend to be confident towards m-learning and hence, more willing to continue usage.

Lastly, social influence was proven in this study to have insignificant relationship with academicians' continuance intention of adopting m-learning. Thus, m-learning developer may prioritize on the four variables identified earlier.

5.3.2 Theoretical Implications

In the academic viewpoint, current study verified that the addition of self-efficacy to the revised UTAUT model is appropriate in the current research, As evidence, R-square value of 0.5428 denoted that the five determinants are able to explain 54.28% of the variation in continuance intention of m-learning among academician.

Besides that, the new conceptual framework in current research consisting of revised UTAUT model and self-efficacy provided new insights to researchers that the element of self-efficacy can be combined with UTAUT model in explaining continuance intention. This can be demonstrated due to the fact that four out of the five constructs in the model were proven to be significant in this study.

Moreover, this study provided enrichment to the relevant mobile-related researches. There are restricted theory-based studies that probe on the continuance intention of m-learning among academician using UTAUT model or self-efficacy theory. Most of the empirical studies employed models such as ECM and TAM in the relevant studies. Thus, this research can devote to be a source for future researchers.

5.4 Limitations of the Study

In the current research, there are several limitations exist. Firstly, the study is cross-sectional in nature, where data is only collected once (Levin, 2006). Consequently, causality relationship between the constructs cannot be depicted through this study (Maduku, 2016). Moreover, the outcomes may only be applicable for current situation at this current period of time. Any changes in academicians' perception towards continuance intention of m-learning in the future cannot be gauged (Carlson & Morrison, 2009).

Besides, the target respondents engaged in the current research also constituted a constraint. The opinions of academicians in private universities were the focus of this study. It ignored the viewpoints of academicians in public universities. On top of that, the research only targeted six private universities in Selangor and KL state. This narrow focus may restrict the representativeness of the data collected.

Furthermore, this study incorporated continuance intention of m-learning as the dependent variable, instead of actual engagement of m-learning. Actual engagement may differ because intention only constituted an antecedent of the action but not necessarily the real action itself (Ajzen, 2002).

In addition, self-administered survey questionnaire is implemented as the data collection method in this research. Akbayrak (2000) alleges that the adoption of questionnaires in the study may be susceptible to the risk of bias. The limited fixed options in the survey may constrain the respondents to answer the questions, disobeying their true intentions since the alternatives do not fit with their thoughts. Subsequently, the reliability of the data collected may be affected.

Lastly, according to results of the R-square (0.5428) in the multiple linear regression analysis, the remaining 45.72% of the variance in academicians' continuance intention of m-learning is elucidated by other elements that are excluded in the current research.

5.5 Recommendation of Future Research

Concluding all the limitations mentioned above, some of the recommendations are suggested to the future researchers towards this area of study. This study focused on academicians of private universities, hence the respondents are limited in a small scope of people. Future research may employ target respondents in both public and private universities for higher reliability and validity of the results.

As this study involved cross-sectional to measure continuance intention instead of actual use, longitudinal studies comparing the results of continuance intention and actual usage are preferred. The new outcome may contribute a different result taking into consideration, the effect of actual usage of m-learning. In the past, there is a dearth of studies conducted using longitudinal manner, amounting to only 18 researches. Moreover, longitudinal research is more preferable as it is more reliable (Williams, Rana, & Dwivedi, 2015).

Research methodology of interview is more appropriate while conducting longitudinal studies. By interviewing the target respondents, data can be collected more accurately without any bias because the researchers can get the open-ended information directly from them as contrary to the fixed options in survey questionnaires.

Finally, the addition of the individual factor which is self-efficacy in the current research has proven a significant effect towards continuance intention of m-learning. Future investigation can be probed to determine other factors that can be used to justify continuance intention (Joo, Joung, Shin, Lim & Choi, 2014).

5.6 Conclusion

In a nutshell, this study helps to determine whether the five independent determinants (performance expectancy, effort expectancy, social influence, facilitating control, and self-efficacy) are significant to influence the dependent variable (continuance intention). Pursuant to the analysis of the results, it is found that PE, EE, SE and FC are significant while SI is insignificant to CI.

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Appendix A: Summary of Past Empirical Studies

Author	Title	Country	Data	Findings
Performance Expectancy				
Gan & Xiao, 2015	An empirical study on continuance intention of mobile reading	China	186 valid survey through paper questionnaires with students who have mobile reading experience in the Library of Sun Yat-sen University in China	The study concluded that performance expectancy which means the perceived utility of the mobile reading system. <i>Users will intend to continue use the mobile reading when they found that system are beneficial and conducive for their life include work or learning.</i>
Lwoga & Komba, 2015	Antecedents of continued usage intentions of web-based learning management system in Tanzania	Tanzania	The data collected from 231 third year undergraduate students from School of Business of MU in Tanzania by distributing survey questionnaires	The study concluded that the <i>effectiveness and productivity in completing course task will directly affect students felt that web-based LMS useful to them</i> .Thus, a student with high performance expectancy is more

				likely to use e-learning system.
Chang &Xue, 2017	Why Do People Continue Using Facebook: An Empirical Study from the Perspectives of Technology Adoption and Social Contract	United States	The data collected from Facebook users over 18-years old in the United States (Amazon Mechanical Turk) by 450 online survey.	The study concluded that <i>users willing to continue using Facebook when they think that Facebook advantageous or fun for their lives or jobs.</i>
Moez, Ines , & Moteb, 2015	The Continued Use of E-learning System : An Empirical Investigation Using UTAUT model at the University of Tabuk	Tabuk in Saudi Arabia	The data collected from students who are current users of this virtual learning system.	This study concluded that students willing to continue adopt e-learning system as a useful system which provides many advantages to student in performing their activities.
Lim, Romle, Salahuddin, Abdullah Osmanb,	Factors Influencing Online Shopping Behavior: The Mediating Role of	Malaysia	The data collected from 30 undergraduate students in University	This study concluded that there is a weak positive relationship between perceived usefulness and

& Safizal, 2016	Purchase Intention.		Malaysia Perlis.	online shopping behaviour.
Effort Expectancy				
Azam, 2015	Continuance Intention Model for Mobile Banking	Saudi Arabia	Data collected among 272 undergraduate and graduate mobile banking users in a regional university by using survey questionnaire.	Effort Expectancy has a direct positive effect on user continuance intention towards mobile banking. <i>Users tend to use a system that is easy to use and access rather than a system needed a great mental effort to operate.</i>
Yueh, Huang, & Chang, 2015	Exploring factors affecting students' continued Wiki use for individual and collaborative learning: An extended UTAUT perspective	Northern Taiwan	Self-administered questionnaire to 103 undergraduate students in a gender-related general education course.	Effort expectancy positively affects students' intention of continued use of a Wiki system for individual and collaborative learning in the future. <i>Results showed that the lesser the students' effort of using a Wiki, the more often they will use a Wiki to enhance and support online</i>

				<i>individual and collaborative learning in future.</i>
Lu & Lee, 2012	Experience differences and continuance intention of blog sharing	Taiwan	Questionnaire was placed on the internet to collect data from 268 blog authors among blog-related communities, such as wretch.cc and ptt.cc.	Effort Expectancy has a direct positive influence on the continuance intention of blog sharing. <i>By putting less effort in blogging, users would be more motivated to continuously share information through blogs.</i>
Gan & Xiao, 2015	An Empirical Study On Continuance Intention of Mobile Reading.	China	Questionnaire survey distributed to 220 students with mobile reading experience	Effort expectancy gives significant impact towards continue usage of mobile reading. <i>Individual is more likely to continue using mobile reading system if it is easy to use. Hence the developer of reading system should provide their service in an easy operated</i>

				<i>software to their users.</i>
Mohammad & Singh, 2014	Understanding the Effect of E-learning on Individual Performance: The Role of Digital Literacy.	New Zealand	Self-administered questionnaire to 250 respondent from professional accounting organizations such as ACCA, CPA Australia and NZICA	There is a weak relationship between effort expectancy and continuance intention of using e-learning. <i>Users found that if e-learning does not contain any useful information, he will not continue using it even though it is easy to use.</i>
Social Influence				
Sun, Liu, Peng, Dong, & Barnes, 2014	Understanding Chinese users' continuance intention toward online social networks: an integrative theoretical model	China	Data was collected from 320 online social network users in China.	The users' perceived usefulness of and continuance intention toward an SNS could be affected by the users' social influence of using the service. <i>Users' continuance intention to use SNS intensifies when users perceive their</i>

				<i>friends' or relatives' usage pressure and they anticipate more friends or relatives using the SNS in the future, they are more likely to use SNS.</i>
Tiago, Fariaa, Thomas, & Popovic, 2014	Extending the understanding of mobile banking adoption: When UTAUT meets TTF and ITM	Portugal	A sample of 194 valid responses was collected among to a user base of people with one or more mobile phones at a public university in Portugal.	Social influence positively influences the behavioural intention to use mBanking. <i>It is the notion that individual behaviour is influenced by the way peers or family members value the use of mBanking.</i>
Mouakket, 2015	Factors influencing continuance intention to use social network sites: The Facebook case	United Arab Emirates	The study sample targets undergraduate students in a major university in the UAE who have an active Facebook account. A	There is an effect of social influence on continuance intention to use SNS. <i>In SNS context, it is believed that when people who are important to an individual was</i>

			total of 397 valid responses were collected.	<i>strongly support the use of SNS, the individual will most likely comply with the group's opinion and continue using SNS.</i>
Binde, Fuksa, 2013	Mobile Technologies and Services Development Impact on Mobile Internet Usage in Latvia	Latvia	This study surveying users in age group 15-60 with different mobile internet experience once by internet survey or CAWI (Computer Assisted Web Interview)	Social influence insignificantly affects the continuance intention. <i>Society and media have relatively small effect on choice to use mobile internet, decision to use mobile internet people take based on other factors.</i>
Leeraphong, Mardjo, 2013	Trust and Risk in Purchase Intention through Online Social Network: A Focus Group Study of Facebook in Thailand	Thailand	Data was collected from focus group respondents of 15 working adults aged between 25-34 years old.	There is a weak relationship between social influence (subjective norm) and the purchase intention. <i>Social influence (Subjective norm) as the least important factor that will affect</i>

				<i>consumer's purchase intention. Consumer is most likely influenced by other factor such as perceived risk where they feel more important to them.</i>
Facilitating Conditions				
Huang, 2017	Cognitive factors in predicting continued use of information systems with technology adoption models	Taiwan	Data were collected from a sample of 1154 Webmail users using web questionnaire.	Positive effect of facilitating conditions on continuance intention. <i>The widespread information system adoption and advance internet accessibility allow users to have continuance intention to use Webmail system.</i>
Wu, Huang, and Hsu, 2014	Benevolence trust: A key determinant of user continuance use of online	Taiwan	676 valid questionnaires were collected from respondents who had prior experience with Facebook	Positive correlation between facilitating conditions and continuance intention. <i>As the level of facilitating conditions getting higher, uncertainty</i>

	social networks		through internet-based survey	<i>and doubtfulness tend to be reduced and hence, users' continuance intention to use online social network increase.</i>
Rezaei, Shahijan, Amin & Ismail, 2016	Determinants of App Stores Continuance Behavior: A PLS Path Modelling Approach	Malaysia	347 valid questionnaires were collected from apps shoppers who have had an experience with apps retailers using online questionnaire	Facilitating conditions have positive impacts on continuance intention. <i>Consumers will use apps store continuously for shopping purpose due to the good understanding of and low cost in accessing to the Internet</i>
Aziz, 2012	Smart Devices as U-Learning Tools: Key Factors Influencing Users' Intention	Sweden	115 students in Stockholm University participate in the online survey	Facilitating conditions are insignificant to the continuance intention. <i>Facilitating condition will affect continuance intention within older women, but respondents of this</i>

				<i>study are mostly students.</i>
Saravanan Lurudusa my & Ramayah, 2016	The Antecedants of Broadband Internet Adoption and Continuance Usage in Malaysian Household Context	Malaysia	Data were collected from 450 broadband users in Malaysia through online questionnaires and hand delivery of survey forms	Facilitating conditions affect continuance intention positively. <i>Customer will use broadband internet continuously when they have resources, knowledge and assistance from correct technical helpdesk is available.</i>
Self-efficacy				
Susanto, Chang, & Ha, 2016	Determinants of continuance intention to use the smartphone banking services: An extension to the expectation-confirmation model	Korea	Data is collected from 301 smartphone users who subscribed to online banking services through a 15-minute email survey.	Self-efficacy plays a significant role in continuance intention of smartphone banking services. <i>Due to the fact that banking services involves sensitive personal financial information, if users perceived themselves to be capable of</i>

				<i>conducting banking services using smartphone, they will have a higher confidence level towards the services, and consequently, intend to repeat using smartphone banking services.</i>
Cheung, Lee, & Lee, 2013	Understanding the continuance intention of knowledge sharing in online communities of practice through the post-knowledge-sharing evaluation processes	Hong Kong	408 responses were collected from teachers or educators who use the 'Teachers Channel' of the Hong Kong Education City, an education portal through online questionnaires.	There is a positive relationship between knowledge self-efficacy and intention to continue sharing knowledge. <i>When the educators think that they can contribute knowledgeable information to the other users in the education portal, there will apt to continue sharing knowledge in the online community of practice.</i>
Warkentin, Johnston,	Continuance of protective	United Stated	A total of 1800 potential	Self-efficacy positively

Shropshire, & Bennett, 2016	security behavior: A longitudinal study		respondents constituting of experienced computer users who were undergraduate students enrolled at two universities in south eastern United States participated in the experiment.	influences users' intention to continue to engage in protective security behaviours. <i>Users are likely to continue employ protective security behaviour when they perceived that they are capable to enact the recommended solution.</i>
Wang, Jackson, Wang & Gaskin, 2015	Predicting social networking site (SNS) use: Personality, attitudes, motivation and internet self-efficacy	China	352 completed surveys were obtained from Chinese college students in two undergraduate universities in Southwestern, China.	Self-efficacy is positively correlated with the usage of SNS. <i>When faced with difficulties in using SNS, user with high self-efficacy tends to view it as a challenge and hence, is more willing to use SNS.</i>
Chiu & Tsai, 2014	The roles of social factor and internet self-efficacy in nurses' web-	Taiwan	244 in-service nurses from private and public hospitals in	There is an insignificant relationship between advanced internet self-

	based continuing learning		Taiwan participated in the research.	efficacy and nurses' attitudes toward web-based continuing learning. <i>The confidence in using Internet does not necessarily complement to the practical implementation of it.</i>
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Appendix B: Concepts in UTAUT

Concept	Definition	Sources	Relationship
Performance expectancy (PE)	The degree to which a user perceived that he or she will receive the advantage of using a technology when performing certain activity.	Venkatesh et al., 2012	Performance expectancy will directly affect behavioural intention and indirectly affect use behaviour.
	The degree to which an individual believes that using the system will assist him or her to be beneficial in job performance	Chang & Xue, 2017	
	The degree to which a person believes that using a technology would maintain his performance and be beneficial for him or her.	Davis & Venkatesh as cited in Masa'deh, Tarhini, Bany Mohammed & Maqableh, 2016	
	The degree to which students perceive that the system will enable them to perform better in their course programmes.	Lwoga & Komba, 2015	
	The extent to which a user believes that a system enhances his or her performance.	Gan & Xiao, 2015	

Effort expectancy (EE)	The extent to which a learner believes that using a system is free of effort.	Chiu & Wang, 2008	Effort expectancy will have direct impact on behavioural intention and indirect impact on use behaviour.
	The degree of ease associated with the use of the system.	Venkatesh et al., 2003	
	The extent of perceived convenience for using the system.	Ghalandari, 2012	
Social influence (SI)	The extent to which consumers perceive that important others like family and friends, perceived that they should use a particular technology.	Venkatesh et al., 2012	Social influence will affect the behavioural intention directly and explain the use behaviour indirectly.
	The extent to which an individual's attitudes, beliefs and behaviours are influenced by referent others	Wang, Meister, & Gray as cited in Zhou & Li, 2014	
	The degree to which an individual perceives that important others believe he or she should use new IS.	Venkatesh et al. as cited in Sun, Liu, Peng, Dong, & Barnes, 2014	
Facilitating conditions (FC)	The degree where an individual believes that organizational and technical	Venkatesh et al., 2003	Facilitating conditions will directly influence use behaviour.

	resources are available to support the use of the system.		
	Users' perception about the presence of control factors that might facilitate or hinder their performance of the behaviour.	Rahmat & Au, 2013	
	People's perceptions of factors that enable or challenge their technology-use behaviour.	Maduku, 2015	
Behavioral intention (BI)	Individual's willingness in using a form of technology	Venkatesh et al., 2003	Behavioural intention will have direct impact on use behaviour
	Person's subjective probability that he or she will perform the behaviour in question	Fishbein and Ajzen, 1975	
Use behavior	Individual's actions in using a form of technology	Venkatesh et al., 2003	Use behaviour will be directly explained by behavioural intention, facilitating conditions, and indirectly predicted by performance expectancy, effort

			expectancy, social influence
Gender	Moderators	Venkatesh et al., 2003	Gender moderates performance expectancy, effort expectancy, and social influence
Age			Age moderates performance expectancy, effort expectancy, social influence and facilitating conditions
Experience			Experience moderates effort expectancy, social influence and facilitating conditions
Voluntariness of use			Voluntariness of use moderates social influence

Source: Developed for the research

Appendix C: Operationalization of Model Variables

Variable	Item	Description	References	Measurement
Performance Expectancy (PE) (IV1)	PE 1	Using m-learning helps me to teach the topic.	Umrani Khan & Iyer, 2009	Five point Likert scale
	PE 2	Using m-learning increases my chance of positive evaluation of my teaching capacities		
	PE 3	Using m-learning in teaching enables me to accomplish tasks (e.g. teach the topic, assess assignments) more quickly.		
	PE 4	Using m-learning in teaching increases the number of topics I can teach per day.		
	PE 5	Using m-learning enhances my efficiency as a teacher.		
	PE 6	Using m-learning reduces my work load considerably.		
Effort Expectancy (EE) (IV2)	EE 1	It is easy for me to become skilful at using the m-learning.	Chiu & Wang, 2008	Five-point Likert Scale
	EE 2	My interaction with the m-learning system is clear and understandable.		
	EE 3	I find it easy to get the m-learning to do what I want it to do (e.g. teach the topic, assess assignments).		
	EE 4	I find the m-learning to be easy to use.		

Social Influence (SI) (IV3)	SI 1	People who influence my behavior think that I should use m-learning.	Venkatesh et al. (2003) as cited in Mtebe & Raisamo, 2014	Five-point Likert scale
	SI 2	People who are important to me think that I should use m-learning.		
	SI 3	Colleagues in my institution think that I should use m-learning.		
	SI 4	In general, my institution will support the use of m-learning.		
Facilitating Conditions (FC) (IV4)	FC 1	I have the necessary resources to enable me to use m-learning for teaching purpose	Maduku, 2015	Five-point Likert scale
	FC 2	My working environment supports me to use m-learning for teaching purpose.		
	FC 3	Assistance is available when I experience problems with using m-learning for teaching.		
	FC 4	Using m-learning for teaching is compatible with my life		
Self-Efficacy (SE) (IV5)	SE 1	I am confident to use m-learning successfully.	Bandura (1997); Ajjan, Hartshone, Cao, & Rodriguez (2014) as cited in Zhang, 2016	Five-point Likert scale
	SE 2	I can use m-learning successfully without others' help.		
	SE 3	I have enough knowledge to use m-learning successfully.		
	SE 4	I have enough skills to use m-learning successfully.		

Continuance intention (CI) (DV)	CI 1	I will use m-learning in the future.	Shin (2009) as cited in Liou, Hsu, & Chih, 2015	Five- point Likert scale
	CI 2	I intend to use m-learning as much as possible		
	CI 3	I will strongly recommend others to use m-learning		

Source: Developed for the research

Appendix D: QS University Rankings: Asia 2016 (Filtered by Private Universities in Selangor and Wilayah Persekutuan Kuala Lumpur)

Rank	University
179	Taylor's University
193	Multimedia University (MMU)
251-300	Limkokwing University of Creative Technology
	Universiti Tenaga National (UNITEN)
	Universiti Tunku Abdul Rahman (UTAR)
301-350	UCSI University

Source: Developed for the research

Appendix E: Number of Survey Questionnaires Distributed to Universities

University	Number of Academic Staff	Percentage (%)	Number of Survey Questionnaires Distributed
Taylor's University	612	13	30
Multimedia University (MMU)	612	13	30
Limkokwing University of Creative Technology	1399	29	67
Universiti Tenaga National (UNITEN)	417	9	20
Universiti Tunku Abdul Rahman (UTAR)	1115	23	53
UCSI University	626	13	30
	4781	100	230

Source: Developed for the research

Appendix F: Permission Letter to Conduct Survey



UNIVERSITI TUNKU ABDUL RAHMAN

Wholly Owned by UTAR Education Foundation (Company No. 578227-M)

24th August 2017

To Whom It May Concern,

Dear Sir/Madam,

Permission to Conduct Survey

This is to confirm that the following students are currently pursuing their *Bachelor of Commerce (Hons) Accounting* program at the Faculty of Business and Finance, Universiti Tunku Abdul Rahman (UTAR) Perak Campus.

I would be most grateful if you could assist them by allowing them to conduct their research at your institution. All information collected will be kept confidential and used only for academic purposes.

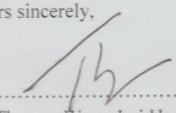
The students are as follows:

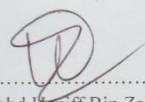
<u>Name of Student</u>	<u>Student ID</u>
Yip Mei Han	14ABB03310
Kee Ching Yi	14ABB03027
Lee Jia Wei	14ABB02286
Lee Yean Jie	14ABB02460
Soh Yan Yi	14ABB03884

If you need further verification, please do not hesitate to contact me.

Thank you.

Yours sincerely,


.....
Ms Theresa Wong Lai Har
Head of Department,
Faculty of Business and Finance
Email: wonglh@utar.edu.my


.....
Dr Mohd Haniff Bin Zainuddin
Supervisor,
Faculty of Business and Finance
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Address: Jalan Sg. Long, Bandar Sg. Long, Cheras, 43000 Kajang, Selangor D.E. Postal Address: P O Box 11384, 50744 Kuala Lumpur, Malaysia
Tel: (603) 9086 0288 Fax: (603) 9019 8868 Homepage: <http://www.utar.edu.my>

Appendix G: Survey Questionnaire



Universiti Tunku Abdul Rahman

**Determinants of Continuance Intention of
Mobile Learning among Academicians in
Malaysian Private Universities**

Survey Questionnaire

Dear Respondent,

We are final year undergraduate students of Bachelor of Commerce (Hons) Accounting, Universiti Tunku Abdul Rahman (UTAR). The purpose of this survey is to conduct a research to investigate the determinants of continuance intention of mobile learning (m-learning) among academicians in Malaysian private universities. Please answer all questions to the best of your knowledge. There are no wrong responses to any of these statements. All responses are collected for academic research purpose and will be kept strictly confidential.

Thank you for your participation.

Instructions:

- 1) There are THREE (3) sections in this questionnaire. Please answer ALL questions in ALL sections.
- 2) Completion of this form will take you less than 5 minutes.
- 3) The contents of this questionnaire will be kept strictly confidential.

Voluntary Nature of the Study

Participation in this research is entirely voluntary. Even if you decide to participate now, you may change your mind and stop at any time. There is no foreseeable risk of harm or discomfort in answering this questionnaire. This is an anonymous questionnaire; as such, it is not able to trace response back to any individual participant. All information collected is treated as strictly confidential and will be used for the purpose of this study only.

I have been informed about the purpose of the study and I give my consent to participate in this survey.

YES (☐)

NO (☐)

Note: If yes, you may proceed to next page or if no, you may return the questionnaire to researchers and thanks for your time and cooperation.

Section A: Demographic Profile

In this section, we would like you to fill in some of your personal details. Please tick “✓” your answer and your answers will be kept strictly confidential.

QA1. Have you used mobile learning before?

- ☐ Yes ☐ No

QA2. Gender:

- ☐ Female ☐ Male

QA3. Age:

- ☐ 21-30 Years Old
☐ 31-40 Years Old
☐ 41-50 Years Old
☐ 51- 60 Years Old
☐ Above 60 Years Old

QA4. Marital status:

- ☐ Single ☐ Married

QA5. Highest education completed:

- ☐ Bachelor Degree/ Professional Qualification
☐ Masters
☐ PhD

QA6. Working experience in this industry:

- ☐ Less than 1 year
☐ 1 to less than 5 years
☐ 5 to less than 10 years
☐ 10 to less than 15 years
☐ 15 years or more

QA7. Current Position:

- ☐ Tutor
☐ Assistant Lecturer
☐ Lecturer
☐ Assistant Professor
☐ Professor

Section B:

This section seeks your opinion regarding the determinants of continuance intention of mobile learning (m-learning) among academicians in Malaysian private universities. Respondents are required to indicate the extent to which they agree or disagree with each statement using 5-point Likert scale [(1) = strongly disagree; (2) = disagree; (3) = neutral; (4) = agree and (5) = strongly agree]

No	Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
PE	Performance Expectancy					
PE 1	Using m-learning helps me to teach the topic.	1	2	3	4	5
PE 2	Using m-learning increases my chance of positive evaluation of my teaching capacities from students.	1	2	3	4	5
PE 3	Using m-learning in teaching enables me to accomplish tasks (e.g. teach the topic, assess assignments) more quickly.	1	2	3	4	5
PE 4	Using m-learning in teaching increases the number of topics I can teach per day.	1	2	3	4	5
PE 5	Using m-learning enhances my efficiency in teaching.	1	2	3	4	5
PE 6	Using m-learning reduces my work load considerably.	1	2	3	4	5
No	Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
EE	Effort Expectancy					
EE 1	It is easy for me to become skillful at using the m-learning.	1	2	3	4	5
EE 2	My interaction with the m-learning is clear and understandable.	1	2	3	4	5
EE 3	I find it easy to get m-learning to do what I want it to do (e.g. teach the topic, assess assignments).	1	2	3	4	5
EE 4	I find the m-learning to be easy to use.	1	2	3	4	5
No	Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

SI	Social Influence					
SI 1	People who influence my behavior think that I should use m-learning.	1	2	3	4	5
SI 2	People who are important to me think that I should use m-learning.	1	2	3	4	5
SI 3	Colleagues in my institution think that I should use m-learning.	1	2	3	4	5
SI 4	In general, my institution will support the use of m-learning.	1	2	3	4	5
No	Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
FC	Facilitating Conditions					
FC 1	I have the necessary resources to enable me to use m-learning for teaching purpose.	1	2	3	4	5
FC 2	My working environment supports me to use m-learning for teaching purpose.	1	2	3	4	5
FC 3	Assistance is available when I experience problems with using m-learning for teaching.	1	2	3	4	5
FC 4	Using m-learning for teaching is compatible with my life.	1	2	3	4	5
No	Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
SE	Self-efficacy					
SE 1	I am confident to use m-learning successfully.	1	2	3	4	5
SE 2	I can use m-learning successfully without others' help.	1	2	3	4	5
SE 3	I have enough knowledge to use m-learning successfully.	1	2	3	4	5
SE 4	I have enough skills to use m-learning successfully.	1	2	3	4	5

Section C:

This section seeks your opinion regarding the level of satisfaction an academician gets from his/her job. Respondents are required to indicate the extent to which they agree or disagree with each statement using 5-point Likert scale [(1) = strongly disagree; (2) = disagree; (3) = neutral; (4) = agree and (5) = strongly agree]

No	Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
CI	Continuance Intention					
CI 1	I will frequently use m-learning in the future.	1	2	3	4	5
CI 2	I intend to use m-learning as much as possible.	1	2	3	4	5
CI 3	I will strongly recommend others to use m-learning	1	2	3	4	5

- Thank you for your time and participation -